

EXECUTIVES UNDER STRESS  
EXPLORATIONS IN THE STRUCTURE AND DYNAMICS

*A Thesis Submitted*

in Partial Fulfilment of the Requirements  
for the Degree of

DOCTOR OF PHILOSOPHY

*by*

SHAILENDRA SINGH

*to the*

DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES  
INDIAN INSTITUTE OF TECHNOLOGY KANPUR

JULY, 1986

- 9 NOV 1989

LIBRARY  
U.S. AIR FORCE

No. A106293

Th  
158.1  
Si 64 i

HSS-1986-D-SIN-EXE



TO

PARENTS

## CERTIFICATE

This is to certify that the thesis "Executives under stress: Explorations in the structure and dynamics" submitted by Shailendra Singh to the Indian Institute of Technology Kanpur in partial fulfilment of the requirement for the degree of Doctor of Philosophy is a record of bonafide research work carried out by him under my supervision and guidance for last two years and three months. The results embodied in the thesis have not been submitted to any other University or Institute for the award of any degree or diploma.

Kanpur

July, 1986



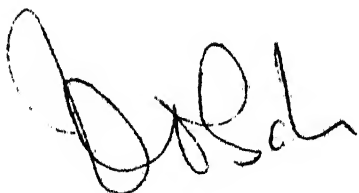
Arvind K. Sinha  
Thesis Supervisor

## CERTIFICATE

This is to certify that Shailendra Singh has satisfactorily completed all the course requirements in the Ph.D. program in psychology. He took following courses

Psy. 777 Elements of Statistical Analysis  
Psy. 781 Development of Personality  
Psy. 783 Advanced Experimental Social Psychology  
Psy. 784N Applied Social Psychology  
Psy. 778N Experimental Design  
Psy. 787N Management of Organizational Behavior  
Psy. 791N Advanced course in Psychological Testing  
Psy. 795N Leadership and Strategic Management in Organizations

Shailendra Singh was admitted to the candidacy of the Ph.D. degree on April 2, 1984 after he successfully completed the written and oral qualifying examinations.



P. P. Sah  
Head  
Department of Humanities  
and Social Sciences



S. A. Shaida  
Convenor  
Departmental Post-graduate  
Committee

## PREFACE

Why would anyone attempt to do another piece of work about executives under stress? Behavioral scientists, management experts, and even novelists seem to have tried their hands on this topic in the past and a proliferation of newer volumes continues unabated. A genuine question could be : is this work different enough to justify its existence? The author thinks: yes, it is. Let us see why. Put in one sentence, the author believes that here is a perspective that can contribute to the newer understanding of the stress phenomenon in an organizational setting. There were several points of departure that were taken during this work.

Firstly it was realized that humankind, like all other living systems, is entirely dependent upon maintaining a satisfactory relationship with his total environment. But it was also realized at the same time that a scientific enquiry of the impacts and the interacting forces of the total environment, under the constraint of a work like this, would be going beyond means. Thus, (this work was addressed to but one of the identifiable segment of the humankind and its relevant environment. The focus of this work then was on the person in the organizational setting only and the maintenance of a satisfactory relationship with the structural and process related organizational constituents only. The fact was realized that the quality of organizational life of a role

incumbent is dependent upon an individual's ability to adjust to the psychosocial as well as the physical demands put forward by the organization, and a failure to do so may result in the impaired effectiveness of behavior and in poor physical and psychological well-being. So the scenario is strictly that of one dealing with within the organization events.

Secondly, even though it may ultimately appear that we bit more than we could chew, this at the outset was consciously avoided. Any serious researcher would be familiar with the fact that often times there is a considerable gap between the extent of model building and the extent of model testing. Build more and test less has been the trick of the trade for several of the so called theory or model builders. (This work would identify only the testable part of the stress phenomenon in the specific (organizational) setting. It would further identify the testable issues that could be investigated and seek to give them a proper treatment as far as practicable.)

Lastly, as opposed to the practice of making univariate hypothesis employing unidimensional constructs that is currently subscribed to by several investigators, (the present work would subscribe to the multidimensional conceptualization of the constructs and make an attempt to explore the multivariate relationships among the variables, concepts, and constructs, with a view to empirically reconstruct a more

near - natural replica of the real state of affairs regarding stress phenomena in Indian work organizational settings.

It is a fact that the professionals emphasize upon precise and pointed presentation and that is correct all the same. Adhering to the practice one would expect that the literature review would consist of only those studies that are directly relevant to the framework of this study. Chances are that such an expectation would be frustrated. This is due to two reasons. One, since the study subscribed to the multidimensional and multivariate conceptualization of the constructs and very little documented literature existed on these lines, whatever was available that even tangentially related to the framework of this study, got included. Secondly, one of the objectives of the present work was also to present a comprehensive account of the literature in the area of stress research especially in the organizational behavior context so that the evaluation of the present work in a proper background may be facilitated. It is hoped that though over detailed at times, the literature review presented would be helpful in preparing a useful cognitive ground against which a proper understanding of the study would evolve. Those who are well read in the area and are looking for one-to-one correspondence between the literature review and the formulation and treatment of the problem are requested kindly to bear with this "unwieldy" literature review. It is intended for those who are relatively less versed in stress

research and hopefully, they would find it useful too.

The area of organizational behavior has been subjected to study from many perspectives, each perspective having its own set of idiosyncratic phrases to deal with its interests. The present work draws heavily on the social psychology of organizations in formulating its framework and treatment of the issues under investigation.

It should be noted that this work is not intended for lay persons. It is intended to be a groundwork for a dialogue with serious researchers with a fair degree of sophistication, for the simple reason that only an academically and methodologically sophisticated professional colleague could be expected to appreciate the strengths and limitations of the various analytical approaches employed in the study.

It is hoped that this work would be informative and useful to the professionals and researchers interested in the stress phenomena.

## ACKNOWLEDGEMENTS

I am extremely thankful to Dr. Arvind K. Sinha for his constant encouragement during my stay at the IIT/K. I have benefited immensely by the thought-provoking discussions with him.

The contributions of (Drs.) Mahfooz A. Ansari, Lila Krishnan, Usha Kumar, Om Prakash, and N.K. Sharma to my academic training are heartily acknowledged. I am also benefited by the discussions with various faculty members both in and outside the department. (Drs.) T.V.S. Rao, P.N. Rastogi, and G.K. Shukla deserve mention for their critical comments from time to time. I am also thankful to Mr. K. S. Singh for his help in sorting out the problems regarding the computer operations.

I find no words to express my gratitude to the executives who participated in the study and institutional authorities who willingly extended all the help and support for data collection without whose cooperation this work would not have taken shape.

I wish to place on record my sincere appreciation for all my friends and colleagues who helped in one way or the other in structuring this work, particularly Archana, Kailash, Parvinder, Kavita, Rashmi, Vikas, and Sachchidananda.

I am also indebted to professional colleagues both inside and outside the country whose work and correspondence



greatly facilitated this work, especially to (Drs.) Randall S. Schuler, Jai B.P. Sinha, Donald F. Parker, Arthur G. Bedeian, Pradip N. Khandwalla, Allen P. Jones, Shimon Dolan, Muhammad Jamal, and Peter Warr.

I also acknowledge the help of publishers who permitted me to reproduce their copyright material.

Last but not the least I thank Mr. V.N. Katiyar for typing the manuscript, V.S. Seal for help in data coding, and Sudama Prasad for cyclostyling.

Shailendra Singh

## TABLE OF CONTENTS

	Page
List of Tables	xvii
List of Figures	xx
List of Abbreviations and Symbols	xxi
Synopsis	xxv
<u>Chapter 1</u> Introduction	
Stress, Stressors, and Strain : A Conceptual Synthesis	2
The Models of Stress	7
Role episode model	7
Person - environment fit model	10
Stress cycle or stress chain model	14
Transactional model	18
Integrated transactional process model	21
The Framework of the Study	26
The Variables in the Study: An Overview	29
Antecedents of stress	30
Personal factors	31
Biographical factors	31
Locus of control	32
Entrepreneurial orientation	35
Work ethic	36
Organizational factors	39
Organizational climate	39
Subjective climate and structure	42

Ownership	46
Level of hierarchy	48
Leadership styles	50
Job characteristics	52
Consequences of stress	54
Strain	54
Personal effectiveness	59
Organizational effectiveness	60
Organizational commitment	61
Job satisfaction	63
Intent to leave	64
Feeling of alienation	65
Sense of power	66
Counteracting stress	67
The models of coping	70
Kahn et al.'s view of coping	70
Hall and Mansfield's model of stress and coping	70
French, Rogers, and Cobb's person - environment fit model of coping	72
McGrath's chain model	72
Newman and Beehr's model of coping	73
Burke and Weir's model of coping	75
Schuler's model of coping	77

Empirical studies in coping with job related stress	83
Personal strategies of coping	83
Transcendental meditation	84
Kahn et al.'s study	85
Hall's study	86
Social support	86
Organizational strategies of coping	89
Issues Under Investigation	90
<u>Chapter 2</u> Method	94
Sample	94
Measures	96
Procedure	98
<u>Chapter 3</u> Results	101
Exploring the Underlying Dimensions of the Constructs	101
Stress questionnaire	101
Biodata questionnaire	102
Locus of control questionnaire	102
Entrepreneurial orientation questionnaire	103
Work ethic questionnaire	103
Organizational climate questionnaire	103
Leadership style questionnaire	104
Job characteristics questionnaire	104
Strain questionnaire	104
Questionnaire of coping strategies	105
Organizational effectiveness questionnaire	105

Organizational commitment questionnaire	105
Job satisfaction questionnaire	105
Interrelationships of Personal and Organizational Factors with the Dimensions of Stress	110
Dimensions of Personal Factors and Stress	117
Dimensions of Organizational Factors and Stress	122
Dimensions of Personal Factors and Strain	127
Dimensions of Organizational Factors and Strain	132
Relationship of Dimensions of Stress with coping Strategies	136
Coping Strategies and Stress	139
Relationship of Dimensions of Stress and Strain	141
Relationship of Dimensions of Coping Strategies and Strain	145
Coping Strategies and Strain	147
Relationship of Dimensions of Stress and Coping Strategies with Dimensions of Strain	150
Dimensions of Stress as Function of Ownership and Hierarchical Position	153
Dimensions of Coping Strategies as Function of Ownership and Hierarchical Position	158
Dimensions of Strain as Function of Ownership and Hierarchical Position	158
Outcome Factors as Function of Ownership and Hierarchical Position	163
Stress - Performance Relationship	166
Relationship of Dimension of Strain and Outcome Variables	168
Prediction of Happy Work Life	171

<u>Chapter 4</u>	Discussion	178
Structure of the Constructs		179
Structure of stress		179
Structure of biodata		180
Structure of locus of control		180
Structure of entrepreneurial orientation		181
Structure of work ethic		181
Structure of organizational climate		182
Structure of leadership styles		182
Structure of job characteristics		182
Structure of strain		182
Structure of coping strategies		183
Structure of organizational commitment		183
Structure of organizational effectiveness		183
Structure of job satisfaction		184
Relationship of Personal and Organizational Factors with Dimensions of Stress		184
Identifying the Work Groups with High Stress and Strain		193
Personal factors discriminating between low and high stress groups		194
Organizational factors discriminating between low and high stress groups		200
Personal factors discriminating between low and high strain groups		205
Organizational factors discriminating between low and high strain groups		210

Relationship of Dimension of Stress with Coping Strategies.	215
Coping Strategies as Discriminating between Low and High Stress	216
Stress and Strain Relationship	219
Relationship of Coping with Strain	223
Strain as Discriminated by Coping Strategies	224
Relationship of Stress and Coping with Strain	227
Differences across Ownership and Hierarchical Position	231
Dimensions of stress as function of ownership and hierarchical position	232
Dimensions of coping strategies as function of ownership and hierarchical position	234
Dimensions of strain as function of ownership and hierarchical position	235
Outcome variables as function of ownership and hierarchical position	237
Stress - Performance Relationship	239
Relationship of Strain and Outcome Variables	241
Prediction of Happy work Life	244
The Summing Up	246
Implications of the Study	249
Limitations of the Study	252
Suggestions for Future Research	253
References	255
Appendixes	289
Appendix A. Measures Used in the Study	289
Appendix B. Summaries of Factor Analyses Results	308
Appendix C. Means, Standard Deviations, Standardized Alpha Reliabilities of the Variables and Intercorrelations	329

## LIST OF TABLES

No.	Title	Page
1.	Summary of the Organizational Characteristics and Number of Respondents	95
2.	Canonical Correlations of Personal and Organizational Factors with Stress Dimensions	111
3.	Standardized Discriminant Function Coefficients of Personal Factors for Stress Dimensions	118
4.	Standardized Discriminant Function Coefficients of Organizational Factors for Stress Dimensions	124
5.	Standardized Discriminant Function Coefficients of Personal Factors for Strain Dimensions	129
6.	Standardized Discriminant Function Coefficients of Organizational Factors for Strain Dimensions	133
7.	Canonical Correlations of Dimensions of Stress with Dimensions of Coping Strategies	137
8.	Standardized Discriminant Function Coefficients of Coping Strategies for Stress Dimensions	140
9.	Canonical Correlations of Dimensions of Stress with Dimensions of Strain	142
10.	Canonical Correlations of Dimensions of Coping Strategies with Dimensions of Strain	146
11.	Standardized Discriminant Coefficients of Dimensions of Coping Strategies for Strain Dimensions	148
12.	Canonical Correlations of Stress and Coping Strategies with Strain	151
13.	Summary of Analysis of Variance of Stress Dimensions as Function of Ownership and Hierarchical Position	155
14.	Means and Standard Deviations of Stress Dimensions as Function of Ownership and Hierarchical Position	156



15.	Means, Standard Deviations, and Summary of Analysis of Variance of Dimensions of Coping Strategies as Function of Ownership and Hierarchical Position	159
16.	Summary of Analysis of Variance of Strain Dimensions as Function of Ownership and Hierarchical Position	160
17.	Means and Standard Deviations of Strain Dimensions as Function of Ownership and Hierarchical Position	161
18.	Summary of Analysis of Variance of Outcome Variables as Function of Ownership and Hierarchical Position	164
19.	Means and Standard Deviations of Outcome Variables as Function of Ownership and Hierarchical Position	165
20.	Performance as Predicted by Dimensions of Stress	167
21.	Canonical Correlation of Dimensions of Strain with Outcome Variables	169
22.	Summary of Hierarchical Regression Analysis for Prediction of Happy Work Life	173
23.	Summary of Stepwise Regression Analysis for Prediction of Happy Work Life	176
24.	Factor Analysis of Stress Responses	308
25.	Factor Analysis of Biodata Responses	311
26.	Factor Analysis of Locus of Control Responses	312
27.	Factor Analysis of Entrepreneurial Orientation Responses	314
28.	Factor Analysis of Work Ethic Responses	315
29.	Factor Analysis of Organizational Climate Responses	316
30.	Factor Analysis of Leadership Style Responses	320

31.	Factor Analysis of Job Characteristics Responses	321
32.	Factor Analysis of Strain Responses	322
33.	Factor Analysis of Coping Strategy Responses	325
34.	Factor Analysis of Effectiveness Responses	326
35.	Factor Analysis of Organizational Commitment Responses	327
36.	Factor . Analysis of Job Satisfaction Responses	328
37.	Means, Standard Deviations, and Standardized Alpha Reliabilities of the Variables and Intercorrelations	329

## LIST OF FIGURES

No.	Title	Page
1.	Kahn et al.'s theoretical model of factors involved in adjustment to role conflict and ambiguity	9
2.	French, Rogers, and Cobb's person - environment fit model of stress and coping	11
3.	McGrath's paradigm for analysis of the stress cycle	16
4.	Cox's transactional model of stress	19
5.	Schuler's integrative transactional process model of stress in organizations	23
6.	Hall and Mansfield's model of organizational and individual coping responses to stress	71
7.	Newman and Beehr's model for evaluating strategies for handling job stress.	74
8.	Burke and Weir's model of coping with stresses of managerial occupation	76
9.	Schuler's model of coping	78

## List of Abbreviations and Symbols

A	Alienation
AC	Authoritarian climate
ADO	Advancement opportunities
AO	Achievement orientation
APP	Autonomy and pressure for performance
APS	Active problem solving
BOI	Bearing others' incompetence
C	Centralization
CABP	Control of ability and powerful people
CACP	Control of accident and powerful people
<u>CC</u>	Canonical coefficients
CCRR	Constraints of change and rule regulations
CDPS	Constructive deferred problem solving
CENR	Competence and expertise nonrecognition
CLP	Control of luck and powerful people
CPPP	Congruence of plans with powerful people
CS	Career success
<u>D</u>	Standardized discriminate coefficients
DLDM	Decentralized decision making
DR	Diffusion of responsibility
EWE	Expressive work ethic
F	Frustration
FC	Formalized communication
FCC	Formalized cross-checking
FI	Feeling of inequity
FU	Feeling of uneasiness

GHQ	General health questionnaire
HWL	Happy work life
I-E	Internal - External
IH	Interpersonal help
IL	Intention to leave
IPCCF	Internality in project completion and cultivating friendship
IRA	Inadequacy of role authority
IS	Information seeking
IT	With iterations
IWC	Inadequate welfare concern
IWE	Instrumental work ethic
JD	Job difficulty
JIF	Job identity and feedback
JRCM	Job requirement - capability mismatch
JS	Job satisfaction
JVR	Job variety and responsibility
LFDLOP	Lack of future planning and dependence on luck and other people
LGC	Lack of group cohesiveness
LH	Latent hostility
LLT	Lack of leisure time
LSS	Lack of supervisory support
NALS	Nonauthoritarian leadership style
NDWA	Nondirectional work approach
NS	Nonsignificant
NPC	Nonparticipative climate

NTLS	Nurturant task leadership style
OA	Organizational attachment
OPC	Organizational pride and contribution
ORT	Organizational risk taking
OSE	Organizational and superior's effectiveness
P	Sense of power
PCA	Preference for certainty and autonomy
P-E	Person - Environment
PEF	Personal effectiveness
PSS	Physical symptomatic strain
QWL	Quality of work life
RA	Role ambiguity
<u>Rc</u>	Canonical correlation
RC	Role conflict
RO	Role overload
SC	Self control
SDF	Standardized discriminant function
SF	Strong formalization
SLWE	Subsistence level work effort
ST	Status
SY	Seniority
TOLS	Task oriented leadership style
UWR	Unjust work and reward
VD	Variable dropped
VE	Variety of experience

WA Work aversion

WIT Without iterations

\* Reversed (A low score would indicate high magnitude of the factor or variable)

## Synopsis

EXECUTIVES UNDER STRESS:  
EXPLORATIONS IN THE STRUCTURE AND DYNAMICS  
A Thesis Submitted  
In Partial Fulfilment of the Requirements  
for the degree of  
DOCTOR OF PHILOSOPHY  
by  
SHAILENDRA SINGH  
to the  
DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES  
INDIAN INSTITUTE OF TECHNOLOGY KANPUR  
July 1986

Stress has emerged as a thrust area in organizational behavior research. However, the conceptualization, assessment, and findings regarding several aspects of stress phenomena are still tentative or inconclusive. The present study aimed to explore the structure and dynamics of stress in the executives.

The conceptual framework of this research involved a chain of events in four stages as follows. Beginning with certain personal and organizational characteristics subsumed under the category of stressors that would lead to perception of stress (at the first stage), an individual may attempt to cope with it (at the second stage). If the coping attempts are successful, the individual would experience little or no strain. If the coping attempts are unsuccessful, the individual would experience strain (at the third stage), which may further lead to the experience of happy or unhappy work outcomes (at the fourth



stage).

The study mainly sought to settle the following research issues. (a) What are the underlying dimensions of the stress construct, as well as other constructs employed in the study, (b) how the personal and organizational factors are related with the dimensions of stress, (c) how the low and high stress and strain groups can be discriminated, (d) what are the relationships of the dimensions of stress and coping strategies, and that of strain, (e) how the various dimensions of stress, coping strategies, strain, and outcome variables differ across ownership and hierarchical positions, (f) what is the pattern of relationship between the dimensions of stress and performance, and (g) how the strain dimensions are related to the outcome variables.

The sample consisted of 250 middle and lower level executives from three public and seven private organizations. Data were collected through structured interview schedule. Data analysis techniques included factor analysis, canonical correlation, discriminant analysis, analysis of variance, and regression analysis.

The results suggested that (a) stress as well as most other constructs used in the study were multidimensional in nature, (b) the personal and organizational factors were related to the dimensions of stress in specific ways; for example, a canonical correlation showed that relatively younger executives who lacked preference for certainty and autonomy

but were given autonomy, experienced high stress and another canonical correlation showed that a situation of lack of structure was related to high role ambiguity, (c) the high stress and strain groups could be discriminated from their low counterparts in terms of the personal and organizational factors, and coping strategies, (d) the higher level executives experienced less stress and strain, utilized better coping strategies, and enjoyed more positive outcomes. The executives from public organizations experienced less role overload, utilized less effective coping strategies, and rated themselves as less effective than their counterparts from private organizations, (e) a combination of coping strategies forming a condition of passive coping strategy was related to high stress condition, (f) a combination of the stress dimensions and coping strategies forming a condition of high role overload along with an absence of effective coping strategy was related to a combination of strain dimensions containing lack of leisure time, perception of inequitable distribution of work and reward, and feeling of latent hostility, (g) a combination of the strain dimensions forming a condition of lack of strain was related to positive outcomes, (h) six dimensions of stress namely, lack of group cohesiveness, feeling of inequity, role ambiguity, lack of supervisory support, job requirement - capability mismatch, and inadequacy of role authority had negative linear relationship, while role conflict

and role overload had an inverted U type relationship with performance, and (i) substantial variance of "happy work life" construct was explained by the proposed model.

Some of the implications of the study are that (a) stress phenomena may be better understood in terms of specific personal and organizational variables acting as the contingencies, (b) stress phenomena should be conceptualized both as multidimensional and variable in nature, a multidimensional thinking may reveal the complexities of the issue in a better way, and (c) in most cases, stress leads to negative consequences and therefore efforts should be made to reduce it.

## Chapter 1

### Introduction

Work related stress has caught the attention of scholars from diverse areas in recent times as evidenced by numerous literature reviews, books, and seminars subscribing to various approaches to understand and control stress. (Brief, Schuler, & Van Sell, 1981; Cooper & Marshall, 1976; Kahn, 1981; Levi, 1981; Moos, 1981). Despite this widespread interest, there have been relatively few reports of empirical investigation of stress in work organizations. The organizational literature on stress is dominated instead by concept papers with few tests of the concepts presented (Parker & Decotiis, 1983, p. 160). Nevertheless, the available evidence and common sense suggest that job stress contributes to health related problem among workers and to organizational problems (Beehr & Newman, 1978; Schuler, 1980) at an annual cost of tremendous amount (Jick & Payne, 1980). In view of the human and monetary costs of these problems, there is a need for more empirical studies of stress phenomena in work organizations. However, at least three factors make such studies unusually complex and difficult to interpret and generalize: notably, (a) a lack of conceptual clarity on the meaning of stress, (b) the choice of an appropriate research perspective, and (c) methodological problems inherent in the study of stress phenomena (Parker & DeCotiis, 1983, p. 161).

The present study is addressed to the understanding of stress phenomena among executives in work organizations with a hope to further the knowledge in this area while overcoming some of the problems that have remained unresolved.

The treatment of the topic would begin with an attempt to understand the phenomena of stress. Subsequently, some of the antecedents and consequences of stress would be dealt with. Counteracting stress would also form a part of the treatment.

### Stress, Stressors and Strain: A Conceptual Synthesis

The construct of stress has been conceived, operationalized, and investigated in more than one way. May be because it has attracted investigators from diverse fields of specialization. Consequently there is little agreement over the phenomena and processes of stress. The viewpoints that follow would make but a modest representation of the diversity of thought in context of stress.

According to Webster (1981) stress means constraining force or influence as (a) a force exerted when one body or body part presses on, pulls on, pushes against, or tends to compress or twist another body or body part, (b) the deformation caused in a body by such a force, (c) a physical, chemical, or emotional factor that causes bodily or mental tension and may be a factor in disease causation, (d) a state resulting from a stress, especially one of bodily or mental tension resulting from factors that tend to alter an existent

equilibrium (p. 1143).

For physicists and engineers stress would refer to a force acting on a body that produces strain or deformation. In physiological and medical sciences stress refers to the changes in physiological function in response to some evocative stimuli, and in psychophysiology stress refers to a stimulus resulting in a detectable strain that can not be easily accomodated by organism and ultimately results in impaired health or behavior.

Apparently there does exist a variety of conceptualizations of stress. The present research endeavor concerns itself to study of stress within the organizational boundaries. Unfortunately, even within the area of organizational behavior, there seems to be little agreement over stress in terms of its definition, nature, and processes. A selection from prominent definitions and viewpoints regarding stress with an attempt at an operational synthesis follows.

Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964) considered a specific variant of stress in the form of role stress. Constructs like role conflict, role ambiguity, and role overload stand subsumed under the construct of role stress. Role stress, for Kahn et al., is supposed to have consequences on the variables like job related tension, emotional reactions etc., Kahn et al. define role conflict as two or more sets of pressure resulting in a situation where compliance with one would make it difficult to comply with the other. Role ambiguity would refer to a kind of inadequate role sending (role demand)

or lack of required information. Role overload may be taken as a special case of role conflict in which all the role demands can not be met in the available span of time. In summary, then, any aspect of role expectation culminating in adverse consequence may be termed as role stress. Hall and Mansfield (1971) referred to stress as an external force operating on a system, be that system an organization or a person. Strain, according to them, would refer to a change in the state of the internal system, and exposition of individuals or organizations to external stresses may lead to internal strain.

Basowitz, Persky, Korchin, and Grinker (1955) proposed that stress should be conceived as something imposed upon the organism, rather it is organism's response to internal or external processes, which reach those threshold levels that strain its physical or psychological integrative capacities close to or beyond their limits; and that such a response of the individual may constitute the essential component of stress definition. Cofer and Appley (1964) defined stress as the state of an organism in which his/her well-being or integrity is perceived to be endangered, (s)he feels that all energy must be diverted for its protection. Parker and DeCotiis (1983) used the term job stress to describe the feeling of a person who is required to deviate from normal or self-desired functioning in the workplace as the result of opportunities, constraints, or demands relating to potentially important work related outcomes. Here the term feeling would imply a

subjective awareness of an organism's own emotional state. Specifically their concept of stress is limited to "an emotional response to stimuli that may have dysfunctional psychological or physiological consequences" (p. 165).

Lazarus (1971) contended that stress would refer to a very broad class of problems differentiated from other areas because it deals with (a) any demand which taxes the system and (b) response of that system. Such reaction would depend on how the person interprets or appraises consciously or unconsciously the significance of a harmful, threatening, or challenging events. McGrath (1976) contended that stress involves an interaction between person and environment. According to him, something happens out there (italic added) which presents a person with a demand, constraint, or an opportunity for behavior. The extent to which the demand is stressful depends upon several things. First, it must be perceived by the stressor. Second, it must be interpreted by the person in relation to ability to (a) meet the demand, (b) circumvent, (c) remove, (d) live with a constraint, or (e) put such opportunities to an effective use. Third, the person must perceive the potential consequences of successfully coping with (i.e., altering) the demand (constraints and opportunities) as more desirable than the expected consequences of leaving the situation unaltered. There may be a potential for stress when an environmental situation is perceived as presenting a demand which threatens to exceed the person's capabilities and



resources for meeting it under conditions where (s)he expects as substantial differential in the rewards and costs from meeting it. For Cox and Mackay (1981), a transaction between person and his or her situation would signify stress. The term transaction implicates the active and adaptive nature of the process. Stress condition refers to an imbalance between environmental supplies and demands, and personal capabilities, needs, and values. Schuler (1984) defined stress as a perceived dynamic stage involving uncertainty about something important. Ivancevich and Matteson (1984) defined stress in terms of person and environment relationship where a misfit between person's capability and environmental demand was supposed to result in stress.

A perusal of the definitions contained in the above three paragraphs may lead to the identification of three respective categories of approaches to stress: (a) the stimulus based approach including definitions that regard stress as the environmental stimuli, (b) the response base approach including definitions that regard stress as response to certain stimuli, and (c) the transaction based approach including definitions that regard stress as interaction and/or transaction between personal and environmental factors. Such a categorization of approaches to stress has been done also by Cox and Mackay (1981) who have criticized the first two categories for their inability to incorporate the importance of the organismic factors and underlying psychological processes. The third category of

approach to stress is supposed to be conceptually richer by Cox and Mackay on the grounds of its giving due importance to the individual and appraisal processes. However, the third category of transactional approach involves problems like a near impossibility of operational measurement of the appraisal process which is a major interacting element in the paradigm.

Having reviewed the major approaches to the study of stress phenomenon in the present research, some of the prominent existing models of stress deserving attention would be reviewed.

### The Models of Stress

The models that have gained prominence in the area of organizational behavior would include the following ones.

1. Role episode model (Kahn et al., 1964).
2. Person-environment fit model (French, Rogers, & Cobb, 1974).
3. Stress cycle or stress chain model (McGrath, 1976).
4. Transactional model (Cox, 1978).
5. Integrated transactional process model (Schuler, 1984).

A brief description of each of these models follow:

Role episode model. Kahn et al. (1964) in their pioneering attempt to present a comprehensive and integrated model of stress postulated that the quest for identity is a central problem for many individuals. This need in addition to some other needs leads them to seek certain kinds of satisfaction in work situation, while work situations frequently pose conditions of conflict and ambiguity. Conditions

of conflict and ambiguity not only produce irritation but also identity confusion in a persistent and extreme form. Thus Kahn et al.'s model incorporated two kinds of role stress (a) role conflict, and (b) role ambiguity. Within an organization, role refers to an individual's part of activity in the total pattern of organizational activity. Essentially this model depicts the interaction between a role sender (who sends the role expectation messages) and the focal person (who receives the role expectations of the role sender). A diagrammatic representation of the model is presented in Figure 1. The model also incorporates organizational, personal, and interpersonal factors which are supposed to affect role episodes. The organizational factors would include structure, hierarchical position in organization, role requirements, task characteristics, physical setting, and organizational practices. The personal factors would include age, sex, job tenure, and cognitive differentiation etc. of the focal person as well as of the role sender. The interpersonal factors in the interaction (of focal person as well as of the role sender) would consist of frequency of interaction, mode of communication, importance of role sender to focal person, physical location, visibility of role sender, and feedback and exchange between role sender and focal person. The role sender may either be the focal person's supervisor, client, coworker, or subordinate. The three sets of variables may influence role episode by affecting either the role sender, the focal person, or the relationship between

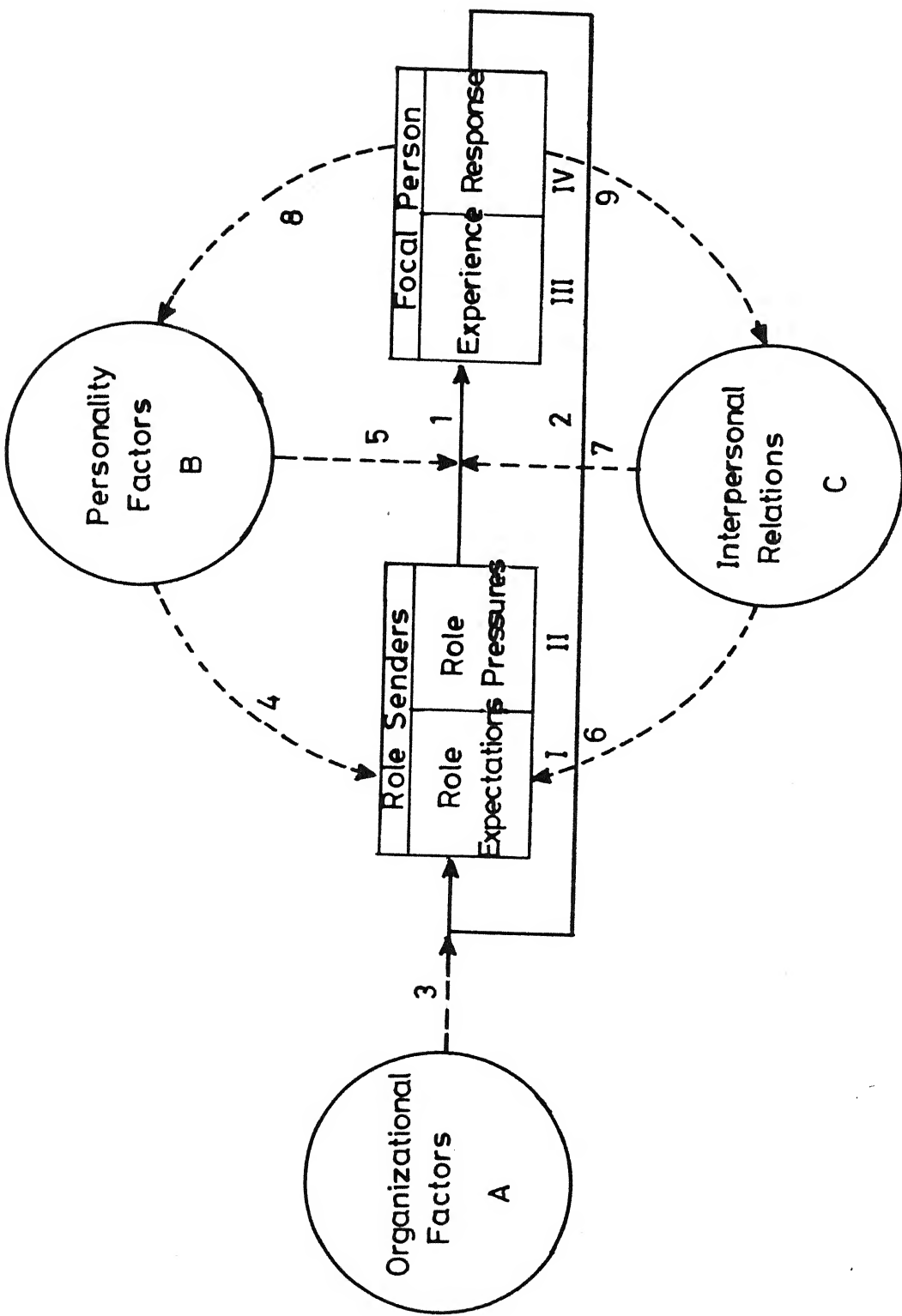


Figure 1. Kahn et al.'s (1964) Theoretical Model of Factors Involved in Adjustment to Role Conflict and Ambiguity. Reproduced with permission © John Wiley & Sons, Inc., 1964.

role sender and focal person. The role episode cycle would consist of the following chain of events. A role sender who may have some role expectations from a focal person, would send roles to the focal person. If the sent roles are incompatible by any means, a role conflict would arise. If the sent roles are not clear enough to guide the focal person's behavior, a role ambiguity would result. The feedback of the focal person's responses may modify the role expectations of the role sender.

This model of stress is an important one in the sense that it was the pioneering model that set the ball rolling for most other subsequent major research approaches in this area. However, till to date the full model still remains to be tested, possibly because testing of the full model might have required multivariate analytic techniques and longitudinal research design which could have been difficult to accomplish at times.

Person - environment fit model. Under the general framework of Lewin (1951) and Murray (1959), French, Rogers, and Cobb (1974) introduced the person-environment (P-E) fit model in stress research. Figure 2 is a diagrammatic representation of the P-E fit model. Two kinds of fit between the person and the work environment were considered. One dealt with how a job occupant's abilities and skills match with the demands of the job. Another kind of fit referred to the degree to which the work environment provided supplies to meet the occupant's job demands. It was postulated that health strain may appear in terms of psychological and/or physical symptoms as a result

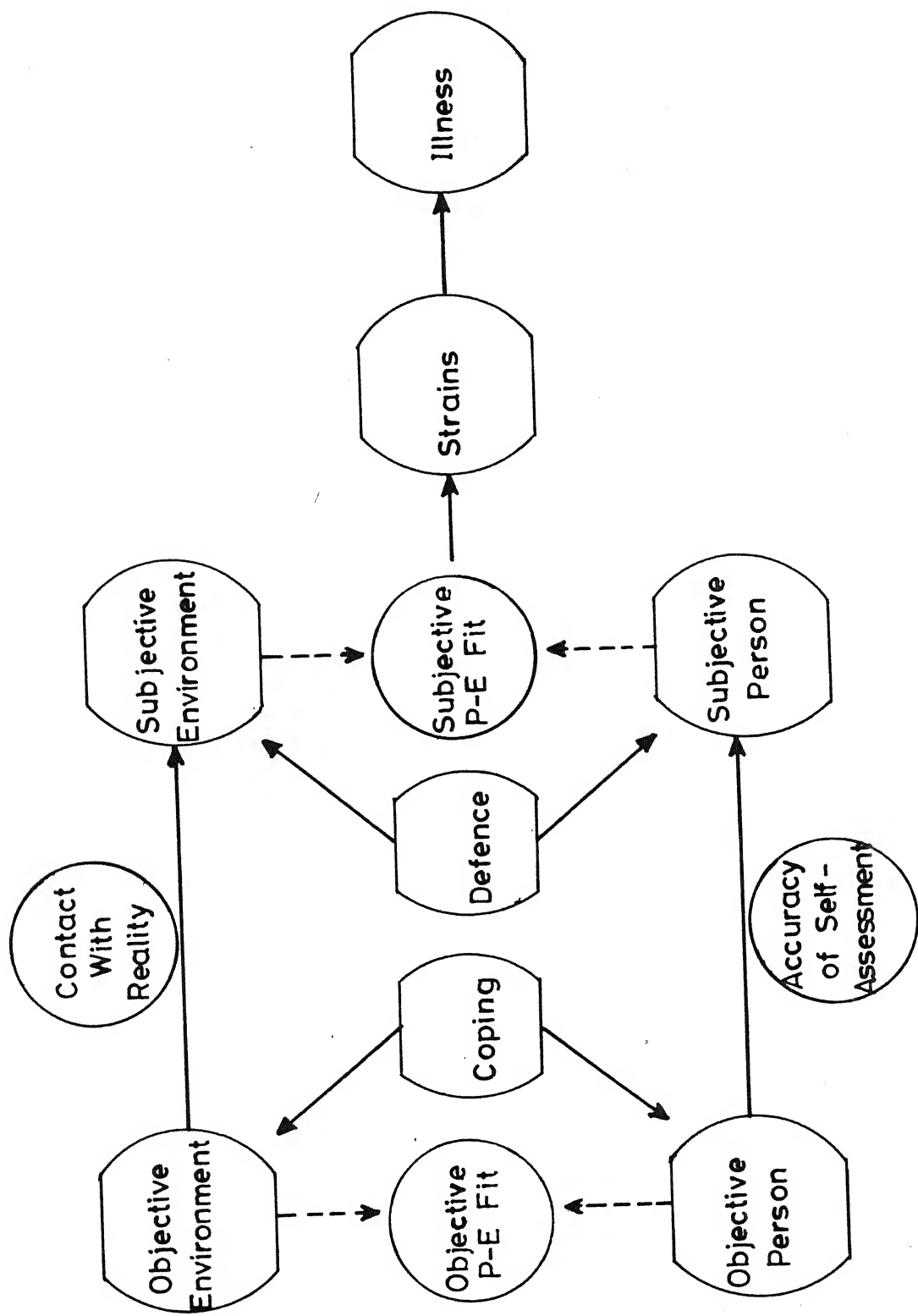


Figure 2. French, Rogers, and Cobb's (1974) Person-Environment Fit Model of Stress and Coping.

of poor fit. Under the model the person would stand differentiated from the work environment. Further, a distinction was maintained between objectivity and subjectivity of the person and the environment. The objective environment exists independently of individuals perception. It would include physical, family, and organizational work environment etc. The present discussion would be limited to the person's work environment only. Subjective environment represents the individual's perception of the objective environment.

The objective person refers to the person in reality. It would include person's needs, values, abilities, and other stable or enduring dispositions. The subjective person refers to the individual's perception of objective self, i.e., the self concept of the person. As in the case of objective and subjective environment, French et al. (1974) included four additional concepts to the concepts of objective and subjective environment and objective and subjective person, namely contact with reality, accuracy of self assessment, objective P-E fit, and subjective P-E fit. Contact with reality refers to the discrepancy between objective and perceived environment. Accuracy of self assessment refers to low discrepancy between objective person and subjective person. Objective P-E fit refers to the fit between the person and environment irrespective of the individual's perception of it. Subjective P-E fit refers to the fit between subjective person and subjective environment, i.e., individual's perception of his

or her P-E fit. In this model stress is the condition of poor P-E fit. A job would be stressful to the extent it did not provide supplies to meet individuals needs and values and to the extent that the abilities of the individual failed to provide supplies to the demand of the job environment.

P-E fit model considers coping and defense as integral to the model. Coping refers to the efforts of the individual directed to change the objective environment or to change the objective person to improve the fit between the two. French et al. (1974) define coping in terms of environmental mastery, and also as changing the objective person in terms of a mechanism of adaptation. Successful coping of either type results in improved objective fit. Defenses are mental mechanisms which distort the individual's perception of objective person and environment. Defense may alter the person's perception of P-E fit.

The empirical investigations following this paradigm most often use the concept of subjective P-E fit. The findings using this model have failed to support the hypothesized curvilinear relationship between P-E fit and strain. This relationship has not been supported probably because the studies focused either on environment or on person alone (Harrison, 1978). Relatively fewer studies have tried to relate measures of person and environment fit to physiological strain. While some significant relationship have been reported, however, the relationship has not been found to be substantial (Caplan, 1972;



Harrison, 1976). The P-E fit model suffers also from the problem of improper assessment of the personal and environmental factors. Though at conceptual level the model is well articulated, more rigorous methodology seems to be needed to test it at applied level. Some investigators (Feather, 1975; Kukla, 1976) contended that a perfect fit may lead to boredom and lack of opportunities of development.

Stress cycle or stress chain model. McGrath (1976) has proposed that behavior in organization is a product of interaction of three conceptually independent systems: (a) physical and technological environment in which behavior takes place, (b) the social medium or nature of interpersonal relationships within which the behavior occurs, (c) the person or the self system of the focal person whose behavior is under consideration. McGrath conceptualized six types of stress or sources of stressful situation that originated from the interaction and/or intersection of three embedded systems as follows.

1. Task based stress (difficulty, ambiguity, and load etc.)
2. Role based stress (conflict, ambiguity, load etc.).
3. Stress intrinsic to behavior setting (effect of crowding or understaffing etc.).
4. Stress arising from physical environment itself (extreme cold, hostile forces etc.).
5. Stress arising from social environment in the form of interpersonal relations (interpersonal disagreement,

privacy, and isolation etc.).

6. Stress within person system (anxiety, authoritarianism, intolerance of ambiguity etc.).

The six sources of stress may not be orthogonal. McGrath contends that effects of the stress and efficacy of coping may also differ according to the sources of stress.

Stress situation, according to McGrath, (1976) is composed of four stage closed loop cycle (Figure 3). The cycle starts with some conditions or set of circumstances in socio-psychological environment. These conditions in fact are the (six) sources of stress producing (six types of) stress from organizational environment. If the focal person perceives the situation as leading to some undesirable state of affairs if left unmodified, then it becomes stressful situation, irrespective of the perception being accurate or inaccurate. The situation may also become stressful if the focal person perceives that desirable state will emerge only if the situation is modified. This constitutes the second stage of the model. The six or some of the six sources of stress may be perceived as the stressful situations by the focal person. At the third stage, focal person then opts for some response alternatives including inaction or withdrawal. Stress responses may be categorized as 'fight' or 'flight'. At the fourth stage the person executes his/her responses with an intention to change his or her relationship with situation in favorable direction. This is the stage that represents the process of coping. The

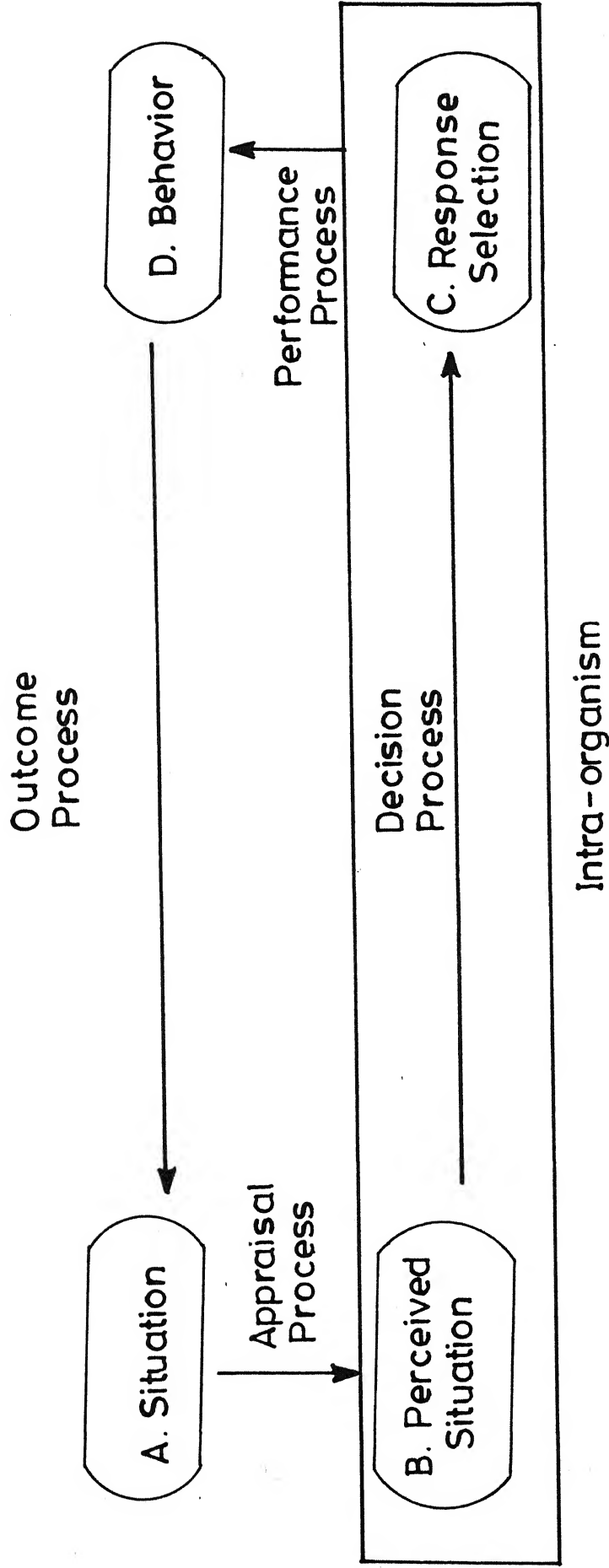


Figure 3. McGrath's (1976) Paradigm for Analysis of the Stress Cycle.

person's responses may have some impact on the situation, but not necessarily the intended one. If the source(s) of stress is (are) wrongly perceived, the response selected and behavior executed may not reduce the stress.

The cycle model emphasizes the importance of linking processes in the study of stress. The appraisal factors link the first stage with the second. A person's past experience significantly influence whether or not stress will be perceived. If the person has already mastered some difficult tasks, a new assignment supposed to be challenging and difficult may not be perceived as stressful by him or her. The second process namely, decision process which Lazarus (1966) called secondary appraisal provides a link between stage two and stage three. It consists of the evaluation of the perceived situation(s) and relating it to the available alternatives and choosing a response or a set of responses with an intention to change the unfavorable aspects of the situation. The third link between third and fourth stages is the performance process. It results in a set of behavior which in principle can be evaluated in terms of quality, quantity, and speed. The fourth process link between fourth and first stage refers to outcome process. It is the link between the behavior of focal person and its consequences for the situation. How a person is affected in stress situation depends upon his or her input in the cycle under study. If the focal person has correctly appraised the situation, has opted for adequate responses and extent to which

(s)he executed it, the outcome may alter the situation. Yet other factors not under control of focal person may inhibit the occurrence of the desired change in the situation.

This conceptual model has not been fully tested although McGrath (1976) cites some studies (Lowe & McGrath, 1971; Scott, 1966; Zajonc, 1965) which correspond to one or the other segment of his model. In the final comments on the model McGrath suggests "we can not really deal with problem in terms of the stressor", or "the response", or "the effect". Rather, we have to think of the stress cycle as a set of process which reflects individuals continuing - and two-way - interchange with the environment" (p. 1372).

Transactional model of stress. Cox (1978) subscribing to the transactional model of stress, regards stress as an individual phenomenon. It is conceived as the result of a transaction between the person and his or her situation. The term transaction is used to emphasize the active and adaptive nature of process. The model is based on relationship between four components of the individual and the environment namely, personal resources, internal needs and values, environmental supplies and support, and external environmental demands and constraints (Figure 4).

This model is somewhat similar to French et al's (1974) P-E fit model. The person is continuously appraising the demands posed on him or her capabilities to meet those demands. In a work situation, any of the needs in the Maslow's (1954) need

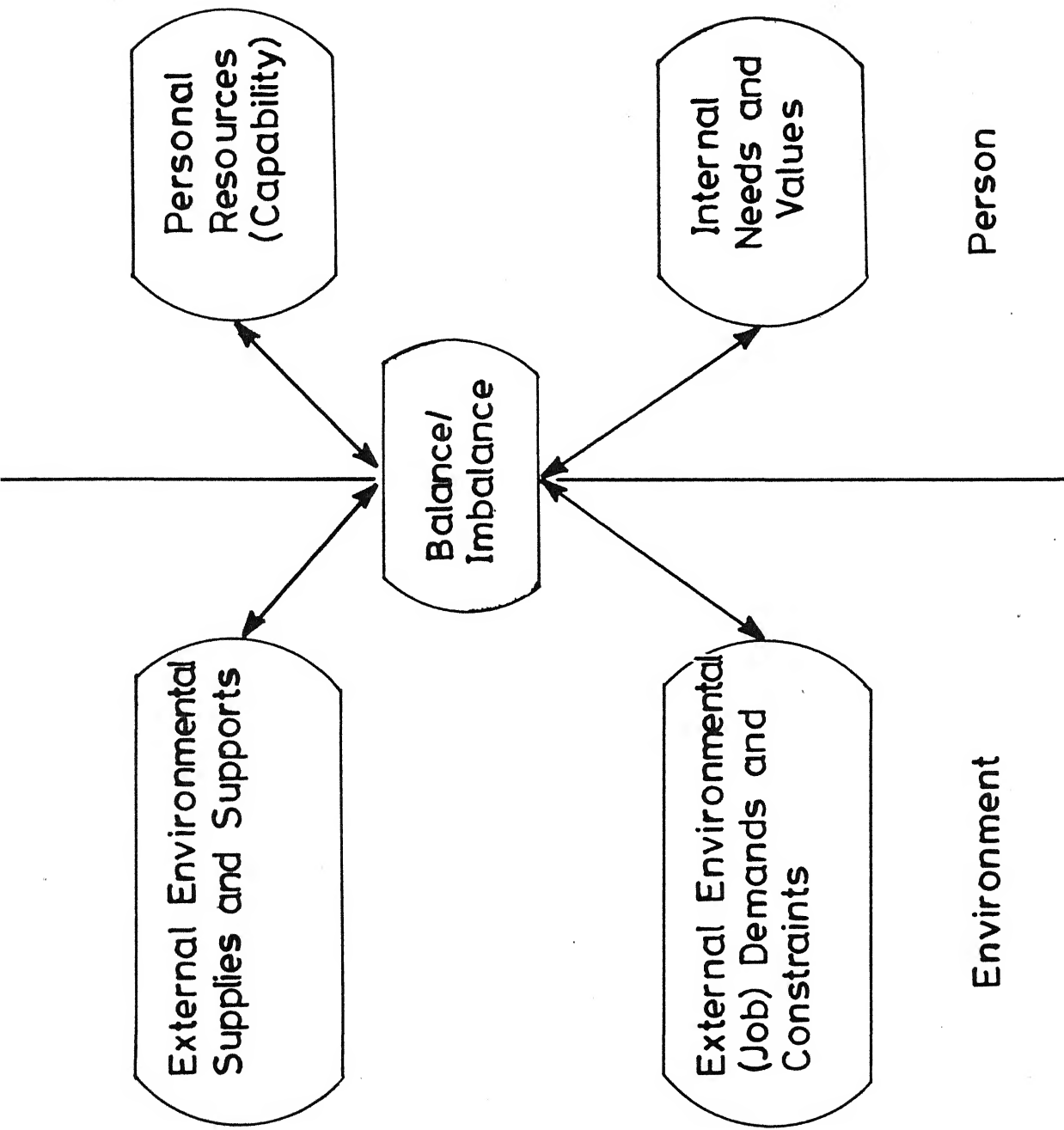


Figure 4. Cox' (1978) Transactional Model of Stress.

hierarchy may be its example. Other aspects of appraisal and subsequent actions could be taken as the constraints posed on the person by the environment consisting of his or her own value system. On the other hand the support or supplies offered by others and constraints placed upon the individual limit the choice of behavior. In order to meet one's needs, one has to tolerate the imbalance of demand and capability. The concept of imbalance is related to the concept of fit in the P-E fit model. Two types of fit are identified. The first constitutes the extent to which the person's skills and abilities match the demand or requirements of the job. Second type of fit refers to the degree to which a person's needs and values are supplied from his/her job environment. The model predicts that when an imbalance or misfit of either type arises, individual's well-being is threatened and strains would occur. The essential part of this transactional model is the interaction within and between its different levels and stages. Each of these interactions depends upon a kind of feedback mechanism which is concerned with maintaining and returning the individual's state of balance.

Cox and associates (Cox, 1980; Cox & Mackay, 1979) have presented a list of demands related with repetitive work and have reported two patterns of responses, one showing boredom, and another an interaction between salary and pacing requirements. Cox model is still under the process of testing, however, preliminary findings suggest that job enrichment and

cognitive appraisals may have implications for reducing stress.

Integrative transactional process model. This model of stress was proposed by Schuler (1982, 1984). The terminology used in this model slightly differs from the other ones. The model has labeled as stress what some others call strain. The presentation of this subsection relies on Schuler's terminology and therefore should be interpreted as context specific and with caution while relating to other approaches to stress.

Schuler (1984) uses the term transactional to signify that the relationships depicted in the model are not unidirectional but reciprocal. An individual feels stress from his or her perception of the environment with his/her own set of unique abilities, skills, needs and values. So what is stressor for one person may not be the stressor for the others. An individual's specific response to stress may either reduce stress or increase it. Thus multidirectional causation among the components of model may lead to the visualization of each of the components as either cause or effect (Lazarus, 1978).

Process refers to what happens over time or across stressors. It consists of two components (a) the actual interaction between the person and environment (full of potential stressors) and (b) person's reaction over time to the felt stress. According to Schuler, the model is an integrative one since it is developed from literature and research in the diverse areas.

The components of the transactional process model include environmental stressors, personal characteristics, the



environment (to search if there are stressors?), and also those factors which influence individual's short term, intermediate, and long term responses. Responses are classified into physiological, psychological, and behavioral categories (Figure 5). According to Schuler (1984), the roles in organization, job qualities, relationships, organizational structure, physical qualities, career development, and organizational changes would be subsumed under the category of environmental stressors. Individual characteristics, e.g., need and values, Type A/Type B behavior (Jenkins, Rosenman, & Friedman, 1967) experience, ability, life stages, locus of control etc. interact with organizational stressors, and appraisal of situation leads to stress. Stress may be inferred through individual's responses. The continued short term, intermediate, and long term stress lead to short, intermediate, and long term responses which Selye (1946) calls alarm reaction, resistance, and exhaustion. The complex transactional feedback loops in the model precludes the possibility of simplistic causal ordering.

The model of coping with stress proposed by Schuler (1984) is essentially an extension of McGrath's stress chain model discussed earlier.

The above mentioned five models of stress phenomenon should by no means be considered to be an exhaustive list of the approaches. Nevertheless, these are the more acknowledged enunciations of the stress phenomena. Taken together these

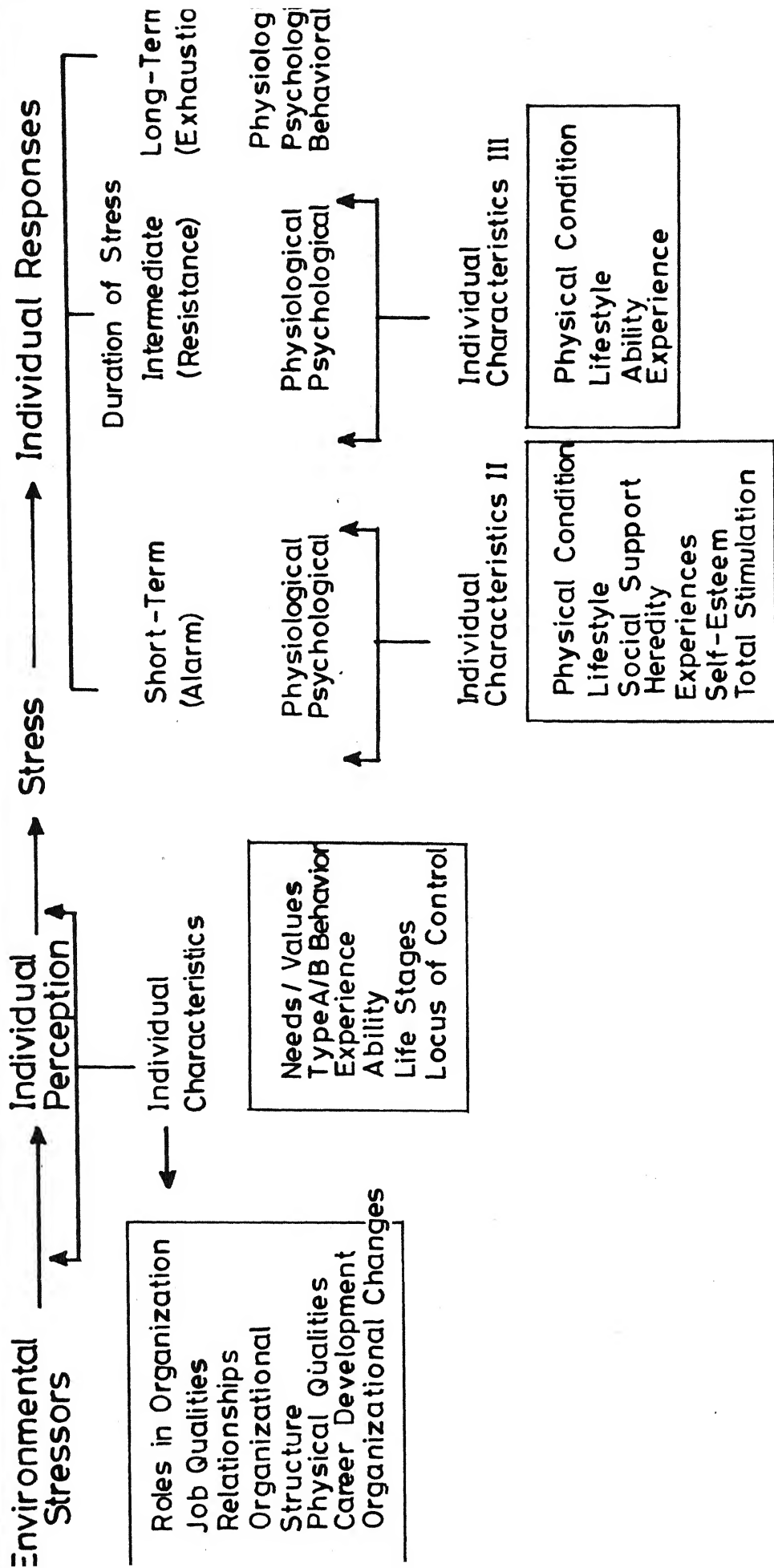


Figure 5. Schuler's (1982, 1984) Integrative Transactional Process Model of Stress in Organizations.

five approaches amplify the importance of role specifications, congruence between personal and environmental characteristics, possibilities of coping, and interaction or transaction among the various components of stress situation for a comprehensive understanding of the stress phenomena.

During the earlier presented review of the definitions of stress, it would be recalled, three categories of approaches to stress were identified: (a) the stimulus based approach, (b) the response based approach, and (c) the transaction based approach. The five models just presented bear an apparent relationship with these three approaches. Apparently role episode model (Kahn et al. 1964) subscribes to the stimulus approach, whereas the P-E fit model (French et al., 1974) may be thought of as primarily subscribing to the response approach, however, at times an interaction approach perspective may also be related to the model. Interaction approach seems to be a more encompassing approach relating itself to three of the five models i.e., stress cycle or stress chain model (McGrath, 1976), transactional model (Cox, 1978), and integrated transactional process model (Schuler, 1984). Thus, currently the transactional approach to the study of stress seems to have been gaining ground.

Quite a number of contemporary investigators (Cox & Mackay, 1981; Ivancevich & Matteson, 1984; Lazarus, 1971; McGrath, 1976; Schuler, 1984) seem to be operating more or less on transactional framework. There is no denying fact that the transactional

approach is conceptually richer than the stimulus and the response approach in that it incorporates the subtle organismic variables and acknowledges the importance of their interaction with the environmental forces. Investigators have included even unconscious appraisals (e.g., Lazarus, 1971).

Conceptual richness at theory formulation level may be worthwhile and attractive. However, in the process of theory building, the problems of operationalization, methodology, and empirical validation become almost inevitable. Several of the models in the area of organizational/occupational stress research seem to be only partially amenable to empirical validation, may be due to reasons beyond the limitations of the investigators. Investigators such as Kahn et al. (1964), Keenan and Newton (1984), and Latack (1984) etc. have been able to present but only partial tests or validations of their initially conceptualized models. Perhaps some day serious researchers would be in a position to acquire and use enough theoretical and methodological sophistication. Perhaps some day testing of the full model would be possible making for complete understanding of the stress phenomena. Till then any factual reporting would have to make do with partial testing of only those components of a model that could be observed and subjected to scientific analyses. If this is so, hypothesising a bigger model and testing only a smaller portion would not serve much purpose. The untestable part would be more or less a waste. The point that is being made is that the transactional approach

is difficult to test in its full perspective. The other two approaches namely, the stimulus approach and response approach, are limited in their conceptualizations but the models under these two categories lend themselves to more comprehensive validation. These two approaches used somewhat similar concepts but with different labels, sometimes leading to confusion. The stimulus approach conceives of stress as leading to strain. The response approach considers stressors as leading to stress. The point to be noted is that both the approaches deal with somewhat similar concepts with different labels. So stress and stressors would be conceptually similar, and so would be strain and stress if the components of one approach are superimposed over the components of the other approach.

### The Framework of the Study

#### The present research

subscribed to the following conceptualization of the stress phenomena and its treatment. It was planned to include only those components in the research paradigm that could be subjected to empirical validation. The research was addressed to the study of stress primarily as an organizational phenomenon. Therefore, variables and forces operating outside the organizational boundaries were not of major concern. This is not to say that the forces outside the organizational boundaries are trivial, rather they simply were not the issues of primary concern.

The conceptual paradigm employed in the present research identified the stress phenomena with a process running in the sequence of stressors, stress, and strain. It is important to note that these labels were used as having specific connotations (to be described shortly) and should not be confused with the identical terms used by the other investigators because as described earlier there may be a possibility of similar terms being used by different investigators in different contexts and as employing different connotations.

Stressors would, in this research, mean the person related and organization related variables that could be conceived of as the antecedents of stress or stress situation.

Stress would represent the perceived forces or stimuli impinging upon the individual which may create demands on the individual.

Strain was conceptualized as a consequence of stress and would refer to the perceived maladjustive responses to stress both at psychological and physiological levels. The implicit assumption was that a state of strain would result if the demands (generated by impinging stimuli) exceed the person's capabilities (or even if the capabilities exceeded demands).

At this juncture it may be worthwhile to pause for a while and ask the question: does the schematization of stress phenomena in the sequence of stressor - stress - strain serve a meaningful purpose? The answer could be both yes and no. Apparently such a scheme does not incorporate any radically new

idea. Similar schemes have been proposed with other labels such as organizational and personal processes instead of stressors, and job related tension and anxiety etc. instead of strain by other investigators also (e.g., Kahn et al. 1964). On the other hand, the scheme followed in this research becomes salient in that it emphasizes (a) the importance of a process in stress phenomena, (b) it also takes into account the two shades of stress, that is, stress and strain, and (c) despite a very subtle demarcation, the scheme conceptualizes stress as stimuli and strain as response, thus incorporating both the stimulus and response approaches to the study of stress in a single research paradigm, and in a measurable way.

Superimposed upon the scheme of stressors, stress, and strain, two more constructs, i.e., coping and outcome were included in the conceptual paradigm with the implicit assumption that in between the stages of stress and strain, a scope of personal coping could be there. The construct of outcome was conceptualized as a resultant of strain. Thus the complete scheme of constructs in the present research would be represented by a "sequence" of stressors-stress-coping-strain-and outcome. In other words, it was conceptualized that the person and organization related variables (stressors) make for perceived forces or stimuli (stress) that impinge upon individual. The magnitude and quality of individual's adaptive attempts (coping) would determine the occurrence of perceptible maladjustive psychological and physiological responses (strain)

to stress, which in turn might result in personal (or organizational) effectiveness or ineffectiveness (outcome).

### The Variables in the Study: An Overview

Looking at the structure and processes of an organization from the perspective of life span either of the organization or of the individual role incumbents, the state of affairs may conceptually be understood in terms of antecedents and consequences. Of course (a third category of) mediating structure and processes may moderate the relationship between antecedents and consequent variables. That is, both at individual and organizational level there could be conceived certain antecedents that undergo transformation under the influence of the mediating variables and culminate as the consequent variable. Needless to say that such a classification is for conceptual simplicity and any serious researcher would be aware of the transactional influence processes among the variables in a real life setting. However, given that the variables may be arranged at least momentarily in the sequence of antecedents, mediating, and consequent ones, there would be a possibility of conceptualizing more than one level of each category. That is, for mediating variables, there could be immediate antecedents and distant antecedents that would in fact be the antecedent of the immediate antecedents. Such finer classification may be possible for the other two categories also.



The framework under which this work had been done recognized the status of variables in the following sequence. It was assumed that stress primarily has consequences at an individual level. Its nature and processes would have the personal factors of the individuals as well as the organizational forces impinging upon him or her as contingencies. A number of variables that could be conceived of as relevant might be studied. Not all of them could be included in a study like present one. Selection of variables could be ticklish problem. However, one could base the judgement on certain considerations such as novelty, relevance, and controversy related to the variables. One or more of these considerations guided the selection of variables in the present research.

Presented below is a review of the stress research in relation to the variables under study. The presentation would be divided into three subsections (a) antecedents of stress, (b) consequences of stress, and (c) counteracting stress.

#### Antecedents of Stress

Methodologically speaking, most survey research have been done in correlational design. Therefore, talking in terms of antecedents and consequences, or cause and effect for that matter, on the basis of research findings may not be an accurate statement. This is not to say that a conceptual model is a misrepresentation of the factual state of affairs. What is intended to be conveyed is that the reality is more

complex than the theoretical modelling in a "testable" form. Nevertheless the conceptual framework does help in understanding the reality, however simplistic form might it be comprised of. The theories in the area of organizational stress rely on an implicit presumption that both the organizational factors as well as the personal factors contribute to stress phenomena. Hence the antecedents of stress would be reviewed under two further subsections (a) personal factors and (b) organizational factors. Primarily the focus would be on antecedents variables. However, reference would also be made to the variables (which although sometimes could more legitimately be labeled as consequence variables) that have been reported in the literature as related to the antecedent variables presently under consideration.

### Personal Factors

Biographical variable. Owens (1976) has shown the importance of biographical data in that it could be viewed as an input for predictive, diagnostic, and counseling purposes. Weiss, Ilgen, and Sharbaugh (1982) related demographic variables with stressful events and job search. They reported age, tenure in organization, and hierarchical position to be negatively related, and marital status and education to be unrelated with stress and job search. Nath (1980) reported a negative relationship between length of service and role ambiguity. A negative relationship between turnover, and age

and tenure implying that employees with less age and shorter length of service showed a higher tendency to leave has been reported in a number of studies (Mobley, Griffeth, Hand, & Meglino, 1979; Muchinsky & Tuttle, 1979; Porter & Steers, 1973; Price, 1977). Relationship of education with turnover has been found to be neither strong nor consistent (Mobley et al., 1979; Price, 1977).

Locus of control. Perceived controllability of events may have its consequences on self and mental health. People may attribute the cause or control of events either to themselves or to the external factors. Those who attribute the control of events to themselves are called internals and those who attribute control of events to external factors or agents are termed as externals.

Rotter (1966) developed this concept of internal- external (I-E) control from social learning theory (Rotter, 1954) to explain the observed tendency of some individuals who ignored the reinforcement contingencies (Phares, 1976). Failure to respond to reward and punishment as predicted by theory was attributed to a generalized expectancy. The data were interpreted in terms of the belief that their own action would not lead to achievement of reward or avoidance of punishment. Internals or externals may have differentiated perceptions of and may display differential reactions to their job characteristics due to their different generalized expectancies.

The variables of role strain and role ambiguity have been studied in relation to locus of control but results are not conclusive. Gemmill and Heisler (1972) found a significant correlation between the measures of job strain (uncertainty of promotion, ambiguity of supervisors evaluation, too heavy work load, and too little authority etc.) and locus of control with internals showing less strain than did the externals. Organ and Greene (1974) found a significant positive correlation between I-E and similar measures of role ambiguity. However, Evans (1974) found a negative correlation between the two measures.

Locus of control has also been studied as a variable moderating the relationship of role ambiguity with job satisfaction. However, the results have been inconclusive. Abdel-Halim (1980) reported that externals were significantly more satisfied under low than high ambiguity, but this pattern was not true for internals who appeared less affected by task ambiguity. However, another study by Batlis (1980) reported that the relationship of job satisfaction with role conflict and role ambiguity was not found to be moderated by the locus of control.

Locus of control has been found to be related to satisfaction in that the internals have been found to be more satisfied than externals with exception of Dailey's (1978) study which reports that internals are less satisfied than externals (Andrisani & Nestel, 1976; Gemmill & Heisler, 1972;

Lester & Genz, 1978; Mitchell, Smyser, & Weed, 1975).

Dailey (1978) studied a sample of scientists and engineers from 15 organizations and found that internals were less satisfied with their coworkers than the externals. He explained the results in terms of the higher social orientation of externals.

The relationship between turnover and locus of control is not straight forward. The correlations may seem contradictory because on the one hand internals are tend to be more active and hence may have greater possibility to quit, on the other hand they tend to be more successful in career and more satisfied, which would be the factors associated with less turnover. Job satisfaction is consistently reported to be a negative predictor of turnover (Mobley et al. 1979; Porter & Steers, 1973). The strength of relationship in most of the studies, however, have been found to be modest showing that dissatisfaction alone may not account for a substantial amount of variance turnover. Locus of control, however, may moderate the relationship between job satisfaction and turnover. The rationale for moderating relationship of locus of control between job satisfaction -turnover may be that the externals do not tend to take action, and thus even if they are dissatisfied they may stay on the job untill external factors made them to leave. On the other hand, the internals tend to take action, may be expected to quit a dissatisfying job. Thus the correlation between satisfaction and turnover

is expected to be higher<sup>for</sup>/internals than for externals. But no data exist for validating such hypotheses (Spector, 1982).

Internal locus of control has been consistently found to be related to high job performance (Andrisani & Nestel, 1976; Heisler, 1974; Hersch & Scheibe, 1967; Majumdar, MacDonald & Greever, 1977; Valecha, 1972). Lawler's (1968) framework explains that expectancies of good performance leading to rewards is a causal factor in high job performance.

Locus of control has also been studied in relation to coping strategies. Strickland (1978) has reported that internals have a greater tendency to engage in an information search about diseases and health maintenance when it is related to their well-being etc.i.e., the internals may engage in more problem focused coping as compared to externals. Anderson (1977) found that internals are likely to use more task oriented (problem focused) coping behavior and fewer emotion centered coping behavior than externals. However, no consistent relationship between coping and locus of control has emerged in the literature. Folkman, Aldwin, and Lazarus (1981), for example, reported that locus of control as measured by Rotter's I-E scale did not bear significant relationship with coping.

Entrepreneurial orientation. Entrepreneurial orientation is defined as a tendency to involve in innovative activities, opting for moderate risk and liking for autonomy. For detailed discussion on entrepreneurship interested readers

may refer to Brockhaus (1982).

Entrepreneurial orientation is an antithesis to organization since entrepreneurial orientation has a component of autonomy whereas the organization by definition has a component of control. Thus it may be conjectured that persons having high entrepreneurial orientation may experience high stress, i.e., high role conflict in bureaucratic organizations. However, there has been no systematic empirical attempt to substantiate this view. On the other hand Kets de Vries (1980) has conceptualized that lack of formal role definition, absence of clear job description, and lack of defined sphere of responsibility are the typical characteristics of entrepreneurial organizations which in turn may produce conflict and ambiguity in organizations and the employees. Thus the study aims to explore how entrepreneurial orientation and stress experience are related.

Entrepreneurial orientation may be positively related with high career success because an entrepreneur can invest more effort to achieve success (McClelland, 1961).

Work Ethic. Work ethic may be viewed as a component of the protestant work ethic (Blood, 1969; Wollack, Goodale, Wijting, & Smith, 1971). Work ethic implies a premium on hard work and a belief that work is a valuable way of life. A closely allied concept is that of job involvement, meaning a generalized cognitive (or belief) state of psychological identification with job, in so far as job is perceived to have

the potentiality to satisfy one's salient needs and expectations (Kanungo, 1979). Some investigators prefer to call it work involvement (Jans, 1982; Warr, Cook, & Wall, 1979).

Rabinowitz and Hall (1977) in a review of literature, found two attitudes which may make for a distinct conceptualization of work involvement. The first represents a work involved person who has psychologically identified with his or her job, i.e., by performing well on the job, the person is able to express his or her self image. The second represents a person who is involved in the work to the extent that his or her work performance affects his or her feeling of personal worth. Rabinowitz and Hall called it performance self-esteem contingency. Later on the multidimensional nature of work involvement was brought out in several studies (Jans, 1979; Saleh & Hosek, 1976; Schwyhart & Smith, 1972; Wood, 1974). Jans (1982) proposed three dimensions of work involvement (a) importance of performance to self esteem, (b) job involvement, and (c) career involvement or specialization involvement.

The concept of work ethic is taken to be synonymous to the first component of work involvement in Jans (1982) terminology. A person high on work ethic may be likely to have the internalization of values about work in the worth of person (Lodhal & Kejner, 1965, p. 24).

Relatively few studies have directly related organizational stress with work ethic. Similar concepts like job involvement



have been studied in relation to stress. Benner's (1983) is probably the only work in which relationships among work meanings, work involvement, stress, and coping at work have been explored. The study indicated that an individual's coping options rely on background and work meaning as well as stress itself. Meaninglessness of work was found to be related to high stress.

Hamner and Tosi (1974) examined the relationship of job involvement with role ambiguity and role conflict and an inverse relationship was found. Similarly, Madhu and Harigopal (1980) reported negative relationship between job involvement and role ambiguity, however, relationship between job involvement and role conflict was found to be insignificant.

Srivastava and Sinha (1983) in a study involving a sample of 120 male Indian managers and measures of ego strength, job involvement, and occupational stress; found that subjects with high ego-strength experienced mild stress compared to the subjects with low or moderate ego-strength. Singh and Singh (1984) reported a positive relationship between job involvement and occupational stress.

Work ethic has been found to be positively related with job satisfaction in several studies (Aldag & Brief, 1975; Blood, 1969; Weissenberg & Greenfeld, 1968) but has usually been found to be unrelated with job performance (Rabinowitz & Hall, 1977). However, in Pelz and Andrews's (1976) study, the relationship between work involvement and job performance

had been found to be positive in nine samples of scientists and engineers. These results are consistent with the other findings in that work attitude and job performance are likely to be associated especially among managerial and professional employees who have more autonomy to shape their own job activities than would have the manual workers (Warr, Cook, & Wall, 1979).

### Organizational Factors

In this subsection, review of the literature of organizational processes and structure in relation to stress will be presented. Subsequently the relevant literature pertaining to the outcome variables, i.e., effectiveness, job satisfaction, organizational commitment, and intent to leave in relation to these organizational processes and structure variables will also be reviewed.

Organizational climate. Organizational climate can be viewed as the characteristic internal environment of an organization. Forehand and Gilmer (1964) have defined organizational climate as a set of characteristics that describe an organization and that (a) distinguish the organization from other organizations, (b) are relatively enduring over time, and (c) influence the behavior of people in the organization. The authors included size, structure, system complexity, leadership style, and goal direction on the dimensions of organizational variations. However, some investigators (e.g., Hall, Hass, & Johnson, 1967; Pugh,

Hickson, Hinings, & Turner, 1969) regard those as situational and structural characteristics. Some others view it with multiple measurement approach (Litwin & Stringer, 1968) and include in organizational models and taxonomies (e.g., Hall et al., 1967; Indik, 1968; Katz & Kahn, 1978), organizational context (e.g., Lawrence & Lorsch, 1967; Pugh et al. 1969), organizational structure (e.g., Porter & Lawler, 1965; Pugh et al., 1969) and system, values, and norms (e.g., Katz & Kahn, 1978). The over inclusive nature of organizational climate seems synonymous to organizational situation and is a label to 'catch all' (James & Jones, 1974).

Essentially climate refers to characteristic behavioral processes in a social system at one particular time. These processes reflect members' values, attitudes, and beliefs which have become part of the construct (Payne & Pugh, 1976). A geographical analogy of climate presented by Payne and Pugh portrayed the organizational context and structural variables as the hills and rivers or physical features of geographical area. Climate dimensions such as progressiveness and development, risk taking, warmth, support, and control would correspond to temperature, rainfall, and wind velocity which have been produced by the interaction of physical features and sun energy. Equivalent social systems energy sources are the people who interact and create climate.

Schneider and Hall (1972) regard organizational climate as a set of summary or global perceptions held by individuals

about their organizational environment. They also conceptualize it as an intervening variable because it is generated by organizational and personal experiences and in turn generates further behavior pattern.

Measures of climate are as varied as the conceptualizations of it. Payne and Pugh (1976) have reviewed a number of organizational climate measures (e.g., Hemphill, 1956; Likert, 1967; Litwin & Stringer, 1968). Hemphill's group dimension description questionnaire for measuring organizational climate consists of 13 dimensions. They are (a) autonomy, (b) control over its members, (c) formal procedures, (d) a pleasant atmosphere, (e) homogeneous membership, (f) members' knowledge of each other, (g) stability, (h) stratification of status, (i) cohesion, (j) clear goals, (k) easy and difficult entry requirements, and (l) amount of participation of members in group affairs. Likert's (1967) climate measures consists of (a) leadership processes, (b) motivational forces, (c) communication, (d) interaction-influence process, (e) decision making, (f) goal setting, and (g) control; and through combination of scores on these dimensions four kinds of climate, that is, autocratic, custodial, supportive, and collegial are derived. Litwin and Stringer's (1968) instrument consists of 9 dimensions, namely, structure, responsibility, reward, risk, warmth, support, standards, conflict, and identity.

There is a controversy regarding the propriety of use of perceptual measures against the objective measure of the construct of organizational climate (Payne and Pugh 1976). It has been proposed that the climate assessed by objective measures may not be differentiated from structure which schneider (1975) refers to as properties and processes of organization that exist without regard to human component of the system while climate is a perception of organization as a whole. Organizational climate factors have been operationalized with several measures that may be differentiated as objective and subjective measures. Again some climate dimension may also be taken to be as structural measures. Payne and Pugh used a two by two classification scheme of approaches to the study of organizational climate involving the subjective - objective and structure - climate distinctions. Payne and Pugh's classification scheme is important for at least two reasons. It identified climate as a construct separate from structure, and secondly, it differentiated the subjective climate from the objective one.

Subjective climate and structure. As mentioned earlier, stress is a construct that has consequences primarily for an individual and in which the individual's perception have strong role to play. It is argued that it is the individual's perception that would determine the nature and process of stress. Therefore the measure of climate used in this study was primarily aimed at measuring the subjective climate.

Further it was realized that in context of stress the subjective perception of structure may play a crucial role as the subjective perception of climate. Therefore, the questionnaire that purported to measure the "organizational climate" was in fact a composite measure of subjective climate and structure.

A brief review of the subjective climate and structure variables hypothesized to be related to stress follows.

Formalization refers to preponderance of rules, regulations, reputation, codified job duties, and extent to which the work activities are regulated by official rules and procedures. It is similar to what Pugh et al. (1969) call the structuring activities. It is usually considered to be a characteristic of organizational structure and has been shown to have consequences for both the organization and the individual. Rule orientation, another label for formalization, was found to be positively related with role conflict by Kahn et al. (1964). They also found tension to be significantly higher in those who disapproved the rule orientation. Gouldner (1954, 1955) commenting on Weber's (1964) model of bureaucracy noted that a rigid organizational structure based on uniform and rigid rules with little variability is conducive to conflict and tension and consequently may decrease the productivity. The studies like that of Blau (1955), Aiken and Hage (1966), Hage and Aiken (1967), Hofstede (1967), and

Miller (1967) have shown a negative relationship of formalization with various dimensions of organizational effectiveness. One strong exception, however, is the study by Radnor and Neil (1971) where the data based on 108 industrial firms showed a positive relationship of formalization with efficiency and operation. An explanation for this has been attempted in terms of contingency approach (Zaltman, Duncan, & Holbeck, 1973) meaning that formalization may not be good in the initial stage of innovation but may become functional once the organization is established.

Centralization has been used in the literature with more than one point of reference, and its measures differ greatly from one study to the next. In this study the concern was with the centralization of power and decision making. Here centralization would mean the level and the variety of participation in strategic decisions by groups relative to the number of groups in the organization (Hage, 1980). It would also mean that the more decision making authority held by those lower in the authority structure (and larger in number), the less centralized the organization is (Etzioni, 1976). Conversely decentralization would mean the extent to which power and authority are extended down through the hierarchical structure. It is related to the concept of participative decision making. Price (1977) found that centralized organizations were marked by greater employee turnover. Aiken and Hage (1966) reported that organizations

involving more people in decision making were less bureaucratic and more participative, and less bureaucratic structures produced less alienation from work and less expressive alienation.

Taking both formalization and centralization into consideration and building upon Weber's (1964) model of bureaucracy Hage (1980) posited that (a) the higher the formalization, the higher the efficiency and vice versa, (b) the higher the formalization, the higher the centralization and vice versa, (c) the higher the centralization, the higher the production and vice versa, (d) the higher the formalization, the higher the efficiency (with the condition that production sets a limit on complexity, centralization, formalization, stratification, innovation, efficiency, and job satisfaction), (e) the higher the centralization, the lower the morale and vice versa, and (f) the higher the formalization, the lower the morale. Decentralization has been found to be conducive to better overall feeling and morale (Worthy, 1950), efficient time utilization (Carlson, 1951), open communication and feedback (Read, 1962), and job satisfaction (Carpenter, 1971).

The relationship of formalization and centralization with outcomes seems to be unclear. Lawler (1968) for instance, found a positive relationship between morale and productivity, however, Hage (1980) postulated that centralization would be negatively related to morale but positively related to productivity.



Role conflict and role ambiguity may also be functions of organizational structure (House & Rizzo, 1972; Lyons, 1971; Morris, Steers, & Koch, 1979). Two kinds of organizational structures have been identified, (a) organic and (b) mechanistic. Organic organizations are characterized by implicit goals and directions, openness of communication, network structure of control and authority, low formalization, and task feedback system. Mechanistic organizations on the other hand would be marked by hierarchical structure of control of authority, and communication, high formalization, specialized differentiation of functional tasks, accord of greater importance to professional or cosmopolitan expertise, tendency of interaction to be vertical, and loyalty to superiors. House and Rizzo (1972) found the mechanistic organizational processes to be associated with less role conflict and less role ambiguity. However, Kahn et al. (1964) argued on the contrary, that the restricted communication (associated with a mechanistic organizational processes) may cause role ambiguity.

Ownership. India is a mixed economy, consisting of both publicly and privately owned enterprises. It would be interesting to compare the magnitude of stress experience in the two types of organizations. Unfortunately, there does not seem to exist many published references of comparative studies of Indian public and private organizations in the context of stress.

Public and private organizations share many common characteristics on one hand but also differ on many aspects. Public organizations have more bureaucratic structure than the private organizations. It is predominantly the post-independence era when the government took interest in establishing its own enterprises drawing upon the model and experiences of the organizations of pre-independence India or of foreign countries many of which were privately owned. In many cases the executives of privately owned organizations were invited to head the public enterprises, so they brought their values, norms, and culture to the public organizations. But at the same time, due to government ownership, many public organizations were headed by bureaucrats who followed bureaucratic norms. Pareek (1985) noted the following worth mentioning characteristics of public organizations:

(a) public accountability, (b) relatively large size, (c) bureaucracy, (d) critical role in national economy, (e) social responsibility, and (f) focus on employee welfare. The role of public sector enterprises was defined in Industrial Policy Regulation of 1948 and 1956. The main objectives set for the public sectors are (a) to promote economic development and growth, (b) to promote the self reliance in strategic sectors and diversify economy, (c) to prevent concentration of economic power, (d) to reduce regional and social imbalances, (e) to effect equitable distribution of income adopting employment policy and other measures, and (f) to generate

surpluses for reinvestment (Tiwari, 1981).

Having discussed the nature of public sector enterprises, a brief review of the available relevant empirical studies would be presented below.

Reviewing published empirical studies, Pareek (1985) concluded that (a) employees and top management of public enterprises have themselves developed mistrust in their abilities, (b) public enterprises are less risk taking, both because of false belief that they do not have much autonomy and because of the fear of public accountability, and (c) employees in the public enterprises have lower self confidence and have negative image about their own competence. Sharma (1982) reported that technocrats were more dissatisfied with their job than the generalists, and middle level managers had more dissatisfaction with their status as compared to lower-middle level managers. Sinha (1973) contended that the executives of private organizations are more satisfied than their counterparts in public sector organizations.

Level of hierarchy. The position in hierarchy of a role incumbent may have consequences in an organizational context. Weber (1964) in his exposition of bureaucracy advocated the use of staffing, i.e., organizing offices according to specialization based on hierarchical position for achieving organizational efficiency. Interorganizational variables were found to be more strongly related to role conflict whereas intraorganizational variables were more highly related

with role ambiguity in a sample of top managers (Rogers & Molnar, 1976). Parker and DeCotiis (1983) found the hierarchical position to be an insignificant predictor of stress dimensions including anxiety and time pressure. Using hierarchical level as a moderator variable, Szilagyi and Sims (1975) found that role ambiguity (but not the role conflict) varied across organizational levels in a sample of paramedical workers. Specific relationships between role conflict, performance, and aspects of satisfaction were also found to be varying accross hierarchical levels. Schuler (1975) reported that in the higher levels of hierarchy, role ambiguity as compared to role conflict had greater negative effect on job satisfaction; whereas role conflict as compared to role ambiguity had greater negative effect on job satisfaction in the lower hierarchical level. The interrelationships among role conflict, role ambiguity and job performance were insignificant at the higher level, but at the lower level, role ambiguity was found to be more negatively related with performance than role conflict was. At the middle hierarchical level, role ambiguity and role conflict were found to be negatively related with job performance, the range of relationship being approximately the same as found in upper and low echelons of hierarchy. Sorensen and Sorensen (1974), in a sample of public accountants, observed that the conflict resulting from discrepancy between bureaucratic and professional norms was experienced less by

partners and managers compared to senior and junior accountants. Sims and Szilagyi (1975) found that the degree of leader's structuring activities and role ambiguity were negatively related among higher level nursing administrators, whereas a positive correlation was found between these variables among the lower level incumbents.

The relationship between hierarchical level and job satisfaction has been investigated in several studies. Most studies report a positive relationship between them. Herzberg, Mausner, Peterson, and Capwell (1957) in a review of literature found job satisfaction to be positively related with organizational levels. They further noted that the results of various studies seemed to suggest that the higher the hierarchical level, the higher the morale would be. A number of other investigators (Centers, 1948; Friedlander, 1965; Hoppock, 1935; Kornhauser, 1965; Rosen, 1961; Rosen & Weaver, 1960) have also reported a positive relationship between hierarchical level and job satisfaction. Hence it may be a safe bet to hypothesize a positive relationship between hierarchical position, and job satisfaction and morale. However, there are some studies that have reported no relationship between hierarchical level and job satisfaction (Armstrong, 1971; Hullin & Smith, 1965; Mass, 1966; Starcevich, 1972).

Leadership styles. Leadership may be defined as the process of influencing the activities of an individual or a

group in efforts toward goal achievement in a given situation (Hersey & Blanchard, 1982). Leadership may be an important distinguishing feature between ineffective and effective organization or subgroups there of. Leadership is one of the more thoroughly researched areas of organizational behavior. There already exist good reviews of this area (e.g., Stogdill, 1974; Stogdill & Coons, 1957) and its enunciation in Indian setting (Sinha, 1980). Sinha identified the fact that several leadership theories (e.g., Argyris & Schon, 1974; Bales & Strodbeck, 1951; Blake & Mouton, 1964; Fiedler, 1967; Haythorn, Couch, Haefner, Langham, & Carter, 1950; Likert, 1961; 1967; Lippitt & White, 1943; Vroom & Yetton, 1973) share common concerns and overlapping grounds in that they all orient themselves in one way or the other to only the two aspects of a job situation, task and people, which a leader is expected to deal with. Thus task orientation (a shade of autocratic style) and people orientation (a shade of participative style) were identified as the two major styles of leadership. Sinha (1980) drawing upon the unique socio-cultural milieu of the Indian setting and need structure, values, and related characteristics of the Indians, identified a style of leadership that he called the nurturant task style involving two main components (a) concern for task and (b) nurturant orientation. The nurturant task style requires that the task must be completed and that subordinates understand and accept the goals and the normative

structure of the group or organization and cultivate commitment to them. The task orientation, however, has the mix of nurturance. The leader cares for his subordinates, shows affection, takes a personal interest in their well-being and above all is committed to their growth.

Not many studies have been done to relate leadership styles with organizational stress. Bedeian, Mossholder, and Armenakis (1983) found that supervisory interaction moderates the relationship between (a) inter-sender role conflict and performance, (b) person-role conflict and satisfaction, and (c) ambiguity concerning behavioral outcomes and propensity to leave. However, the role of specific leadership styles in stress phenomena remains a little researched topic. However, leadership style has been explored in relation to some of the other variables that were included in the present study. Graen (1976) considered a leader to be a socializing agent for the new role incumbents and thus chances could be that the leader-member relationship might contribute to employee turnover. Singh (1984) also found that top management practices (that may be interpreted in terms of styles) were perceived to be important causes of turnover by the middle level managers. Sinha and Kumar (1985) found that the styles of leadership had specific relationship with different clusters of climate variables.

Job characteristics. The traditional work design with its emphasis on high specialization benefited the society but

at a high human cost. With passage of time these human costs became less acceptable and a need for better work design was felt to bring in effective human results along with the technical results. The effort toward better work design resulted in quality of work life (QWL) "movement". QWL refers to the favorableness or unfavorableness of the job environment of the people (Davis, 1981). A major force in this regard has been Herzberg, Mausner, and Snyderman's (1959) motivator-hygiene theory that made its impact on job enrichment, meaning that additional motivators could be added to a job to make it more rewarding and more humanized. Job enrichment would be a function of greater amount of five core dimensions that are (a) task variety (different operations to be performed), (b) task identity (performing a complete piece of the work), (c) task significance (work that appears to be important), (d) autonomy (some control by the employees over their own affairs), and (e) feedback (information about performance). Herzberg et al.'s (1959) model may be taken to be as similar to Maslow's (1954) model of need hierarchy in that Maslow centers on the needs of the psychological person while Herzberg focuses on job conditions for need satisfaction. Thus Herzberg's motivational factors are related to Maslow's higher order needs, i.e., esteem and status, and self actualization and fulfillment. Alber (1979) on the basis of a survey of 58 companies that used job enrichment reported that the five areas of most frequent



improvement were higher production, better job satisfaction, improved quality of work, less turnover, and less absenteeism. Beehrs, Walsh, and Taber's (1976) study showed that job characteristics and stress phenomena were related. They found that job characteristics moderated stress-strain relationship. They termed job characteristics as higher order need strength. On the other hand, contrary to Beehr et al.'s findings, Brief and Aldag (1976) found that higher order need strength was not a moderator of stress - strain relationship.

### Consequences of Stress

Having described some of the variables that could be conceived of as the antecedents of stress, in this subsection studies relating to the consequence or outcome variables would be reviewed. The outcome variables would include strain, personal and organizational effectiveness, organizational commitment, job satisfaction, intent to leave, feeling of alienation, and sense of power. Some studies use the terms stress and strain interchangeably. Therefore, at places some confusion may be noticed in the presentation. However, it should be borne in mind that the present research maintained a differentiation between these two terms.

### Strain

Strain refers to a person's maladjustive psychological, physiological, and behavioral responses to stress. It is interchangeably used with terms such as job tension, job

anxiety, etc. Operationally it may manifest itself in reported anxiety, depression, psychosomatic complaints, debilitation, and physiological changes in blood chemistry etc.

Job related tension and job anxiety are widely used indicators of strain (Bedbalian, Armenakis, & Curran, 1981; Kahn et al., 1964; Parker & DeCotiis, 1983). Using these indicators, studies consistently show a positive relationship between stress and strain. Marshall and Cooper (1979) used the second stratum anxiety scale QII of 16PF (Cattell, Eber, & Tatsuoka, 1970) to assess strain which they call psychological stress or ill-health measure. They identified some personality factors as main causes of high anxiety; and work overload and lack of autonomy as the contributors to strain. Another widely used strain index is mental health. Investigators using mental health approach regard mental health from two viewpoints (Jahoda, 1958). Firstly, mental health may be viewed as a constant and enduring function of personality leading to predictable consequences in behavior and feeling. These would be based on the stresses of the environment concerning the focal person. Secondly, mental health may also be viewed as a transitory function of personality and environment. The first point of view contends that it is the individual that may be classified as either more or less healthy, while in the second, it is the action that could be classified as either more or less healthy. A person classified as healthy in one approach may be classified unhealthy in the

other. According to Jahoda, this may be the prime cause of confusion in research literature on mental health. Klein (1960) differentiated between long term and short term mental health but for greater clarity, used three categories: soundness, meaning a long term mental health; stability, meaning a general and/or particular ability to withstand stresses and to maintain well-being; and well-being, meaning an immediate state of balance between person and his or her environment.

Margolis and Kroes (1973) proposed that there could at least be five dimensions of job related strain.

1. Transient short term subjective reactions to job stress. For example, feeling anger, hostility, frustration, fear, and tension and anxiety.

2. More chronic psychological responses which has become a feature of the person's health status rather than a reaction to a specific event. Example for this category may include prolonged feeling of fatigue, chronic depression, or feeling of alienation.

3. Momentary clinical physiological changes, such as a change in blood chemistry.

4. Symptoms of physical and/or psychosomatic ailments as coronary heart disease, gastro-intestinal disorders etc.

5. Decreased job performance manifested in increased error rate, deterioration in quality of performance etc.

The assessment of the transient short term state of well-being or ill-being has been mostly assessed by variations of a questionnaire called the General Health Questionnaire (GHQ) which has been widely used by the investigators in this area. Marshall and Cooper (1979) found that physical ill-health assessed through Gurin, Veroff and Feld's (1960) GHQ was positively associated with and predicted overload and lack of autonomy. 16PF (Cattell et al., 1970) characteristics shrewd, less intelligent, affected by feelings, tenderness, tense and humbleness. Tinning and Spry (1981) using the Goldberg's (1972) GHQ reported that the level of stress was no greater in the steel industry under investigation than in a general population, but scores increased significantly during the situation of change or uncertainty.

It deserves to be mentioned that quite a number of investigators working on the phenomena of stress and/or strain have made use of the physiological measures of strain which makes for an equally interesting and useful approach to the research. However, the studies done under this approach would not be reviewed here for the simple reason that this approach was not followed in the present research endeavor.

Arsenault and Dolan (1983) used personality, occupational, and organizational factors in studying the relationship of job stress with performance and absenteeism among 1200 hospital workers and found that role content source of stress reduced absenteeism but did not influence performance, and

that occupation influenced absenteeism but not the performance. Organizational culture affected both performance and absenteeism.

Furnham and Schaeffer (1984) studied relationship of person-environment fit with job satisfaction and mental health at work in the framework of Holland's (1973) model of vocational preference and found the presence of a poorer mental health and job satisfaction among people who perceived poor person-environment fit. Hendrix, Ovalle, and Troxler (1984) studying behavioral and physiological consequences of stress found that one or the consequences could be an intent to quit the organization. However, the physiological consequences might be moderated by some societal and individual variables (Cohen & Wills, 1985).

A variant of job related strain has been labeled as job burnout symbolizing a very high level of strain. Zastro (1984) pointed out that job events or structural factors (e.g., too many work hours, dead end assignments, isolation from peers, and impoverished social life etc.) contributing to a high level of stress also contribute to burnout. Zastro further contended that people seeking careers in social work may be particularly vulnerable to burnout if they enter the field with unrealistic expectations. Etzioni (1984) examined the moderator effect of social support on stress and burnout relationship, and found burnout to be positively related to stress and negatively related to social support. Social

support in life for females and social support in work for males were found to moderate the stress-burnout relationship as support reduced the magnitude of burnout.

### Personal Effectiveness

Personal effectiveness (in problem solving perspective) refers to an ability to solve four system problems. They are adaptation, goal attainment, integration, and latency or tension management. It also refers to an ability to perform the job effectively (Sutton & Ford, 1982).

The relationship between stress and personal effectiveness or job performance has been examined by a number of investigators, however, the research findings have not been unanimous.

Building upon Yerkes Dodson law (1908) investigators like Anderson (1976) and Cohen (1980) postulate and defend an inverted-U relationship between stress and performance. They argue that a moderate degree of stress is conducive to effective job performance because at this stress level an individual is activated and at the same time can invest the energy toward job performance.

Another viewpoint equating stress with challenge (Meglino, 1977) states that problems, difficulties, anxieties and challenges may be the occasions for constructive activities and improved performance, and therefore postulates a positive linear relationship between stress and job performance. This viewpoint receive support by Lowe and McGrath (1971) in a field study and by Cohen's (1980) study in laboratory setting.

Both the inverted- U and positive linear relationship hypotheses have had limited empirical field testing and were constrained with samples of limited generalizability. Thus the status of stress-performance relationship is still not clear. Jamal (1984) reported a negative linear relationship. In summary, then, three competing hypotheses regarding stress-performance relationship, each one having at least partial support evidence, exist and a need for further testing remains.

### Organizational Effectiveness

Organizational effectiveness is such a complex phenomenon that no single acceptable definition can be proposed. That is why a variety of organizational theorists assumed organizational effectiveness as a multi-faceted concept (e.g., Cameron, 1978; Georgopoulos & Tannenbaum, 1957; Goodman, Pennings, & Associates, 1977; Katz & Kahn, 1978). This study followed the problem solving perspective.

In problem solving perspective (Georgopoulos, 1970), organizational effectiveness may be assumed as a function of how well an organization has been able to tackle the following generic problems: coordination, adaptation, external maintenance, resource acquisition, resource allocation, strain amelioration and goal achievement. Each of these problems must be solved on continuous basis to ensure the system's survival and growth. Thus an effective organization is one

which ensures long term survival and growth with legitimate recognition from the environment without over taxing the resources.

This definition is derived from the theory and research using open system model of organizational effectiveness (e.g., Argyris, 1964; Katz & Kahn, 1978; Yuchtman & Seashore, 1967). However, it is very difficult if not impossible to measure long term survival and growth for the purpose of research in organizations; it is simply too costly and time consuming (Aldrich & Pfeffer, 1976; Pfeffer, 1977). Thus the investigators generally rely on alternative measures which help them to infer the probability of organizational survival and growth over time.

Stress research has used mainly personal consequences as measures of organizational effectiveness (e.g., satisfaction, health, accident, turnover, morale etc.). What happens to total system as a whole is not clear. The present study also attempted to infer as to what happens to organizational effectiveness under varying amount and various kinds of stress.

#### Organizational Commitment

Organizational commitment is a construct that is reflected in an individual's identification with and involvement in his or her organization as well as in a willingness to exert effort and remain in the organization. It has been defined as the nature of individual's relationship to an organization



so that a highly committed person will indicate a strong desire to remain a member of a particular organization and would be willing to exert high level of effort on behalf of the organization, and would have definite belief in and acceptance of the values and goals of the organization (Mowday, Steers, & Porter, 1979).

Generally organizational commitment is included as an outcome variable in stress research. Brief and Aldag (1976) reported a negative relationship between role ambiguity and organizational commitment. Similarly Baided (1969) reported that the individuals with high role conflict showed lower commitment and less confidence in their organizations. Singh and Sinha (1986) also found that a stress conducive personal characteristic, namely, Perceived Time Urgency and Challenge in Work, a construct similar to the Type A behavior pattern (Jenkins et al., 1967) was negatively related with organizational commitment.

It has been found that commitment may moderate the relationship between stress and performance (Jamal, 1984) meaning that the committed employees could perform better than the less committed employees under comparable stress conditions.

Commitment has been shown to have consequences for absenteeism and employee turnover. A strong evidence of negative relationship between commitment and turnover is indicated (Mowday et al., 1979; Porter, Crampon, & Smith, 1976; Porter, Steers, Mowday, & Boulian, 1974). . Commitment

has also been found to be a better (negative) predictor of turnover than satisfaction (Price, 1977; Mobley, 1982).

### Job Satisfaction

Job satisfaction represents the pleasurable or positive attitude that one has towards his or her job. Locke (1976) defines it as a pleasurable positive state resulting from one's job and job experiences.

Job satisfaction/job dissatisfaction is often included in stress research as a consequence of stress. Negative relationship between stress and satisfaction has frequently been reported (Beehr, Walsh, & Taber, 1976; Caplan et al., 1975; Greene, 1972; Hamner & Tosi, 1974; House & Rizzo, 1972; Kahn et al., 1964; Miles, 1976; Oliver & Brief, 1977-78; Paul, 1974). But findings are not unequivocal. Hamner and Tosi (1974) found a positive correlation between role conflict and threat and anxiety, but no significant relationship was found between role conflict and job satisfaction in a sample of managers. Tosi and Tosi (1970) have found a negative relationship between job satisfaction and role conflict but no significant association was found between role conflict and job related threat and anxiety. Keller's (1975) study using a sample of research and development professionals revealed that role conflict was negatively related with satisfaction with pay, supervision and promotion, but was unrelated to satisfaction with work and with coworkers. Keller suggested that further

study was needed to understand the relationship of role conflict with particular affective reactions to job outcomes. Some studies report negative relationship between role ambiguity and job satisfaction (Beehr et al., 1976; Caplan et al., 1975; Greene, 1972; Hamner & Tosi, 1974; Johnson & Stinson, 1975; Paul, 1974; Rizzo, House, & Lirtzman, 1970). On the other hand some studies (Brief & Aldag, 1976; Ivancevich & Donnelly, 1974; Tosi, 1971; Tosi & Tosi, 1970) report no relationship between role ambiguity and job satisfaction. Still some other studies have shown that relationship between stress and satisfaction is not a simple one and may be moderated by hierarchical level of the organizational members (Schuler, 1975; Sims & Szilagyi, 1975; Sorensen & Sorensen, 1974).

Satisfaction has also been studied in the context of turnover and it was found that satisfaction and turnover were negatively related (Mobley et al., 1979).

The findings of stress-satisfaction relationship research, it seems, are not conclusive and exploration of their relationship deserves further attention.

### Intent to Leave

Intent to leave the organization is supposed to be an indicator of anticipated turnover and has been found to be related with actual turnover (Martin, 1979). Several other investigators have used this indicator instead of turnover

itself (Kraut, 1975; Newman, 1974; Nicholson, Wall, & Lischerson, 1977; Walters, Roach, & Walters, 1976). Bluedorn (1982) and Coverdale and Terborg (1980) suggested that intent to leave is possibly a suitable measure of turnover which reduces involved costs and certain methodological problems in research.

Intent to leave may be treated as consequence of stress and actual turnover may be treated as possible behavioral outcome of stress (Schuler, 1980; VanSell, Brief, & Schuler, 1981). The conceptual and empirical linkages between stress and turnover have been but inadequately studied. At present the relationship is inconclusive (Mobley, 1982), and further research may be needed in this regard.

### Feeling of Alienation

Alienation is defined by Schacht (1970) as a dissociative state of individual, and also as a cognitive sense of separation in relation to some other element in his or her environment. A counterpart of alienation is involvement (Kanungo, 1979). If an organization is in the focus of reference, organizational commitment may be regarded as one pole of the alienation - commitment continuum. Though correlated, organizational commitment and alienation towards organization are different constructs and have different theoretical backgrounds.

Alienation may also be a consequence of job related stress. But very few studies have been conducted that would relate stress and alienation. An allied concept, job involvement has been studied in relation to stress. A review of the relevant studies has been already presented in the subsection of work ethic. Suffice it to note here that conclusive pattern of results is lacking on this account also and further research is warranted.

Dayal and Sharma (1971) concluded that role conflict and role ambiguity lead to alienation. Pestonjee and his associates (Pestonjee 1979; Pestonjee & Ahmed, 1971; Pestonjee & Singh, 1979; Pestonjee, Singh, & Singh, 1981; Singh 1980) found a negative correlation between alienation and job satisfaction. Pestonjee (1979) also reported that workers (lower level) were more alienated than supervisory level employees.

#### Sense of Power

It refers to the individual's perception of his or her own worth, and may be conceived of as a feeling or perception of the individual that his or her own action has an important function in deciding the fate of focal body (e.g., organization). This index was included in the study to gauge the perceived powerfulness of the individual in organization. During pre-pilot observations this factor was frequently mentioned by the prospective respondents as an indicator of success in executive position. This factor apparently has not been

previously included in earlier stress research. This variable, however, has been studied in relation to bureaucracy, size, and management level (Rastogi, 1978) and it was reported that top level managers perceived themselves to be more powerful than middle and lower level managers. Respondents in less bureaucratic organizations perceived themselves as more powerful than their counterparts in high bureaucratic organizations. Effect of size and interactions were not significant.

### Counteracting Stress

By and large, it has been an accepted fact that some amount of stress would be a natural byproduct of the work setting. It has also been recognized that often times stress has negative consequences. Given that the presence of stress is more or less inevitable, the question is what could be done to counteract stress so as to prevent its negative consequences. Put more directly, the question is how to cope with stress.

Newman and Beehr (1979) have defined coping as an adaptive response to job stress: a response intended to eliminate, ameliorate or change the stress producing factors in the job context, or intended to modify the individual's reaction to stressful job situation in a beneficial way. Monat and Lazarus (1977) defined it as an effort to master the condition of harm, threat, or challenge when a routine or automatic response is not readily available. Dewe, Guest,

and Williams (1979) defined coping as an attempt to respond to feeling of discomfort with an aim of removing that discomfort. White (1974) defined coping as a process involving effort on the way towards solution of a problem. Coping will occur when an individual confronts a fairly drastic change or problem that defies familiar ways of behaving, requires the production of new behavior and very likely gives rise to uncomfortable effects like anxiety, despair, guilt, shame or grief; the relief of which forms part of the needed adaptation. Lazarus and Launier (1978) defined coping as efforts, both action-oriented and intrapsychic, to manage (i.e., to master, tolerate, reduce, and minimize) environmental and internal demands and conflict among them which tax or exceed a person's resources. Pearlin and Schooler (1978) defined it as behavior that protects people from being psychologically harmed by problematic social experience. Coping, according to Pearlin and Schooler (1978) protects by (a) eliminating or modifying stressors, (b) perceptually controlling the meaning of stress experience thus neutralizing its problematic character, or (c) keeping emotional consequences within manageable bounds. McGrath (1970) defined coping as an array of covert and overt behavior patterns by which the organism can actively prevent, alleviate, or respond to stress inducing circumstances. Schuler (1984) drawing upon previous definitions defined coping as a process of analysis and evaluation to decide how to protect oneself against the adverse effect of any stressor

and its associated negative outcomes yet to take advantage of its positive outcomes.

This research endeavor subscribed to the Schuler's (1984) definition of coping. According to Schuler this definition incorporates several important considerations that deserves mention. They are as follows.

1. Coping is an intentional work.
2. Effort involved in the process of analysis depends on structural ambiguity and individual's skill and experience.
3. Coping process is initiated to protect oneself from the negative outcomes while in the case of positive outcomes an individual engages in coping to take advantage of it.
4. Coping strategies are actions based on the analysis of cost and benefit of the situation.
5. Costs and benifits of the coping strategies employ criteria which are used to evaluate the efficacy of coping strategies.
6. Coping is highly dependent on perception and coping involves transaction with the environment.
7. It is an integrative definition of coping which incorporates previous definitions and models.

Various models of coping strategies have been proposed for coping with stress. Only models relevant from the perspective of organizational behavior would be reviewed.



### The Models of Coping

The relevant models of coping are:

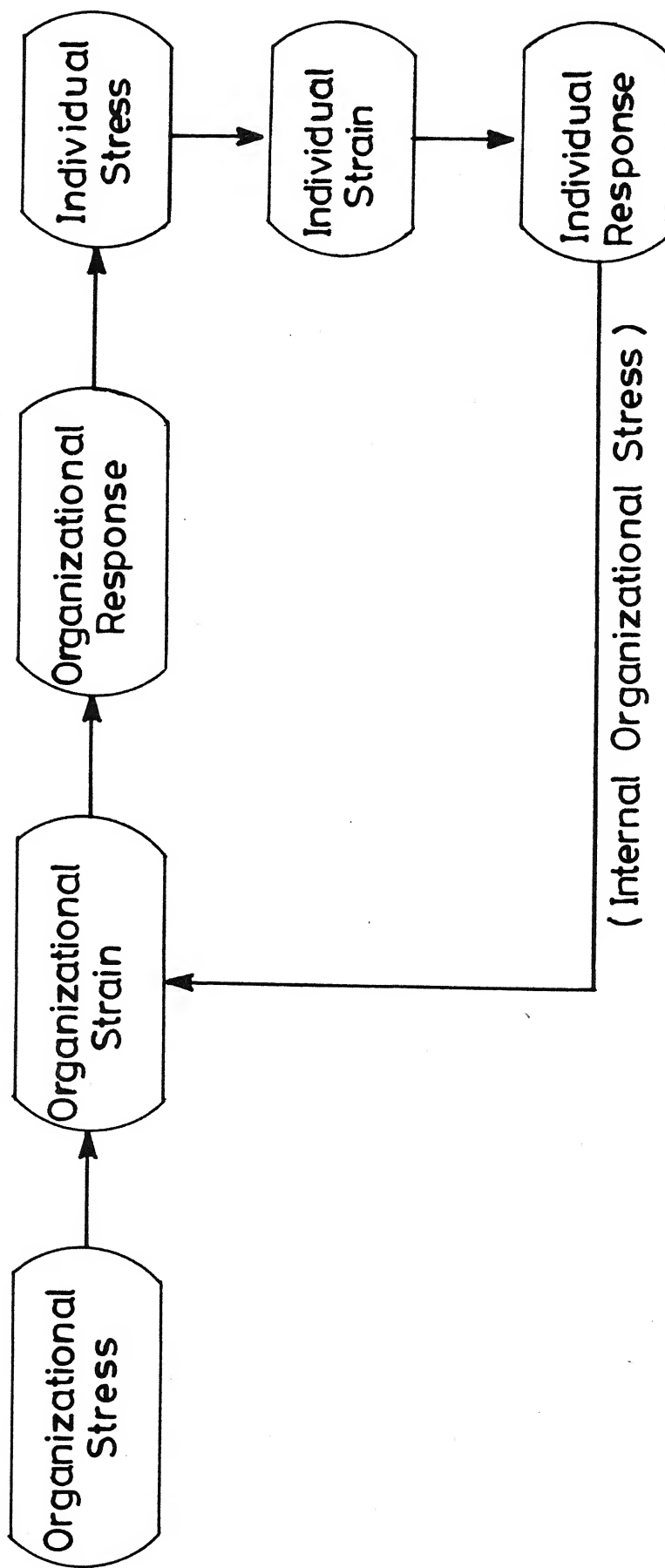
1. Kahn et al.'s (1964) view of coping.
2. Hall and Mansfield's (1971) model of stress and coping
3. McGrath's (1976) chain model.
4. French, Rogers, and Cobb's (1974) Person-environment fit model.
5. Newman and Beehr's (1979) model of coping.
6. Burke and Weir's (1980) model of coping.
7. Schuler's (1984) model of coping behavior.

#### Kahn et al.'s View of Coping

In Kahn et al.'s role episode model, there is also some scope of studying coping process. The feedback loop from focal person to role sender may be thought to represent this process. For example, suppose a focal person receives two contradictory messages from a role sender. In coping to role conflict (i.e., contradictory messages) the focal person may directly tell the role sender that the two communications are contradictory and therefore need to be modified.

#### Hall and Mansfield's Model of Stress and Coping

This model proposes that stress is an external force operating on a system, be that system an organization or a person. Strain is the change or deformation in the internal state of the system. When individuals or organizations are exposed to stress conditions, the exposure may lead to strain(s). Organizational response(s) to stress may change



**Figure 6:** Hall and Mansfield's (1971) Model of Organizational and Individual Coping Responses to Stress.

the organizational situation for the individual and consequently may produce strain in the individual. Stress(es) applied to organizations result(s) into individual stress and strain. The individual coping responses may change organizational situation (Figure 6 ).

#### McGrath's Chain Model

This model (already discussed in subsection "The models of stress" has implications for coping behavior at the third stage, i.e., response selection. If the appraisal of sources of stress is correct (stage 2), the focal person may select appropriate response and execute it to change the stressful situation.

#### Person-Environment Fit Model of Coping

As already has been mentioned coping and defenses are integrated parts of stress model. Coping in this model is defined as the activities of individual directed either to change the objective environment, or to change the objective person in a way to achieve the fit between the two. For example, if an individual is unable to discharge all the assignment(s), (s)he either may ask the supervisor to reduce work demands (change the work demands) or may alternatively acquire the skills to handle the workload (change in objective person). The coping process is already discussed in the subsection covering the person-environment fit model of stress.

### Newman and Beehr's Model of Coping

Newman and Beehr have proposed 12 types of coping strategies based on a 3 x 2 x 2 categorization, involving three types of agencies, (i.e., person, organization, and outsider which initiate coping process), two types of target (i.e., person and organization in which change is to be made), and two types of responses (i.e., preventive and curative). Thus the 12 strategies of coping reflect the efforts initiated by a person, organization, or other party to change the person's or organization's condition in either preventive or curative way.

Newman and Beehr (1979) contend that individual and situational differences (especially the passage of time) play an important role in determining effectiveness of stress management strategies. They propose a general model of coping behavior. The model presumes that in order to evaluate efficacy of stress management strategies we should know something about nature, amount, and duration etc. of (a) stressors, (b) strains or consequences of stress, (c) personal and situational moderators of the stress or stress relationship, (d) adaptive responses, (e) the personal and situational moderators, of adaptive response - outcome relationship, (f) the outcomes of adaptive response(s), and (g) the personal and situational moderators of adaptive response - outcome relationship (Figure 7 ).

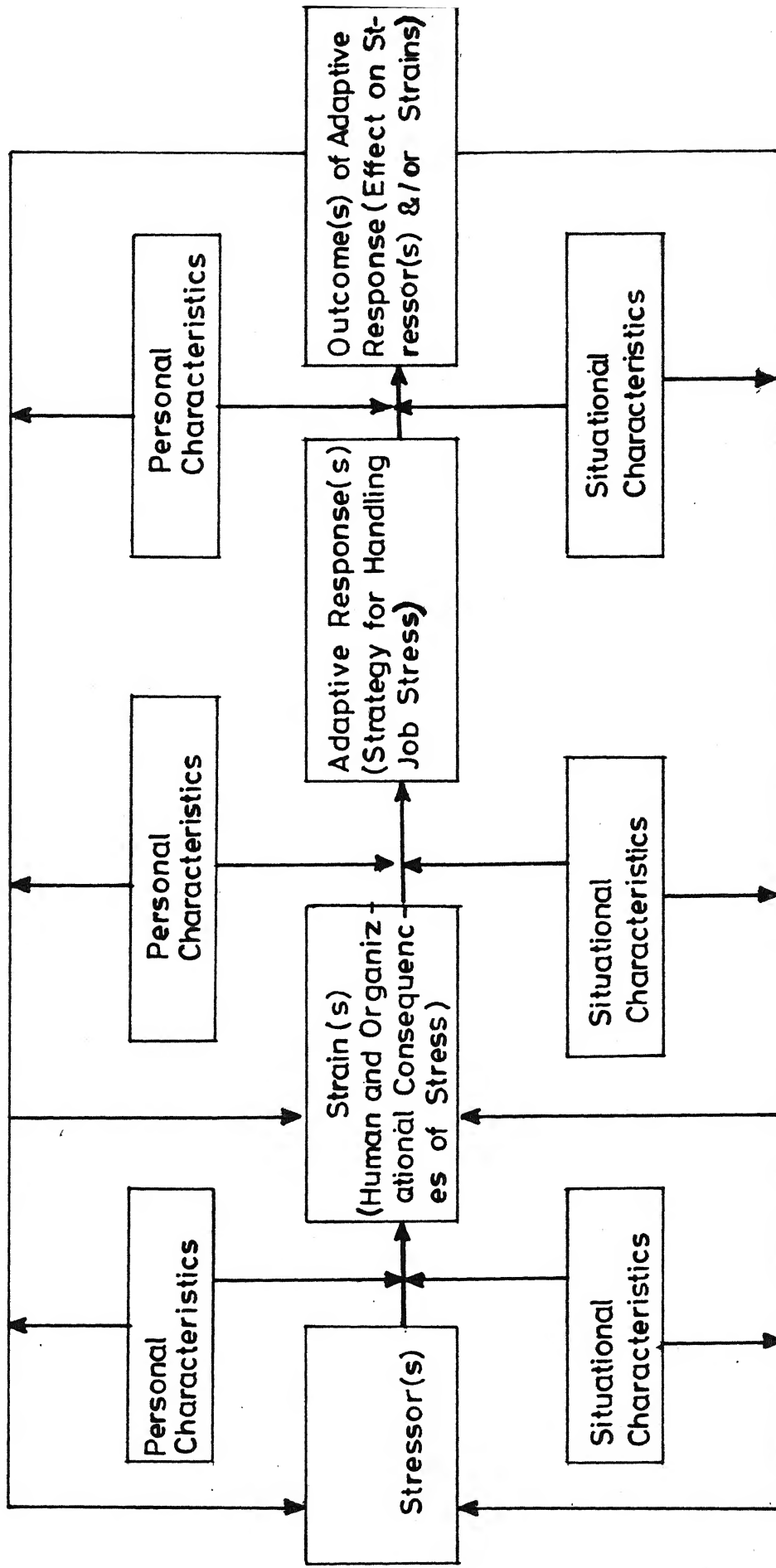


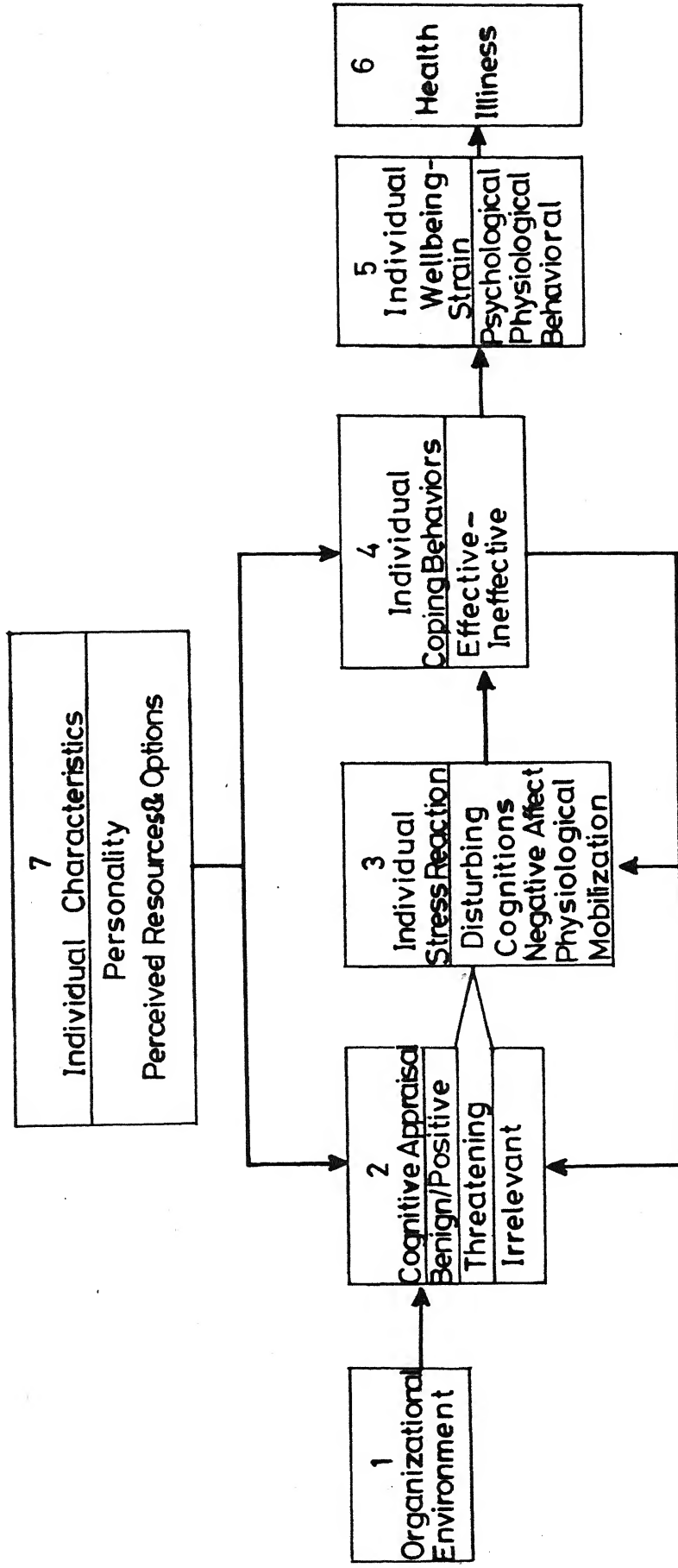
Figure 7. Newman and Beehr's (1979) Model for Evaluating Strategies for Handling Job Stress.

The model postulates that there are three phases of interaction. In the first phase, stressor(s) interact(s) with personal and situational characteristics, and produce(s) strain(s). In the second phase, strains interact with personal and situational characteristics to produce adaptive response(s). Again in the third phase, response(s) interact(s) with personal and situational characteristics to produce final outcomes of adaptive responses. Finally these outcomes are postulated again as interacting with stressors to complete the cycle of events. The coping behavior can be evaluated for effectiveness by measuring stress and strain both before and after the coping responses.

#### Burke and Weir's Model of Coping

Burke and Weir (1980) have proposed a model of coping based on earlier models to guide the research and practice in work organizations. The diagrammatic representation of the model is presented in Figure 8.

The model considers organizational environment as a source of stress. It may be intrinsic to job and related to organizational characteristics. The second box, cognitive appraisal refers to the mental processes of integrating past, present, and future in one series of evaluative categories developing on an individual's interpretation of that event for his or her well-being (Lazarus, 1966). An individual may consider an event to be either relevant or irrelevant, positive or threatening. The third box represents individual's



**Figure 8.** Burke and Weir's (1980) Model of Coping with Stresses of Managerial Occupation .

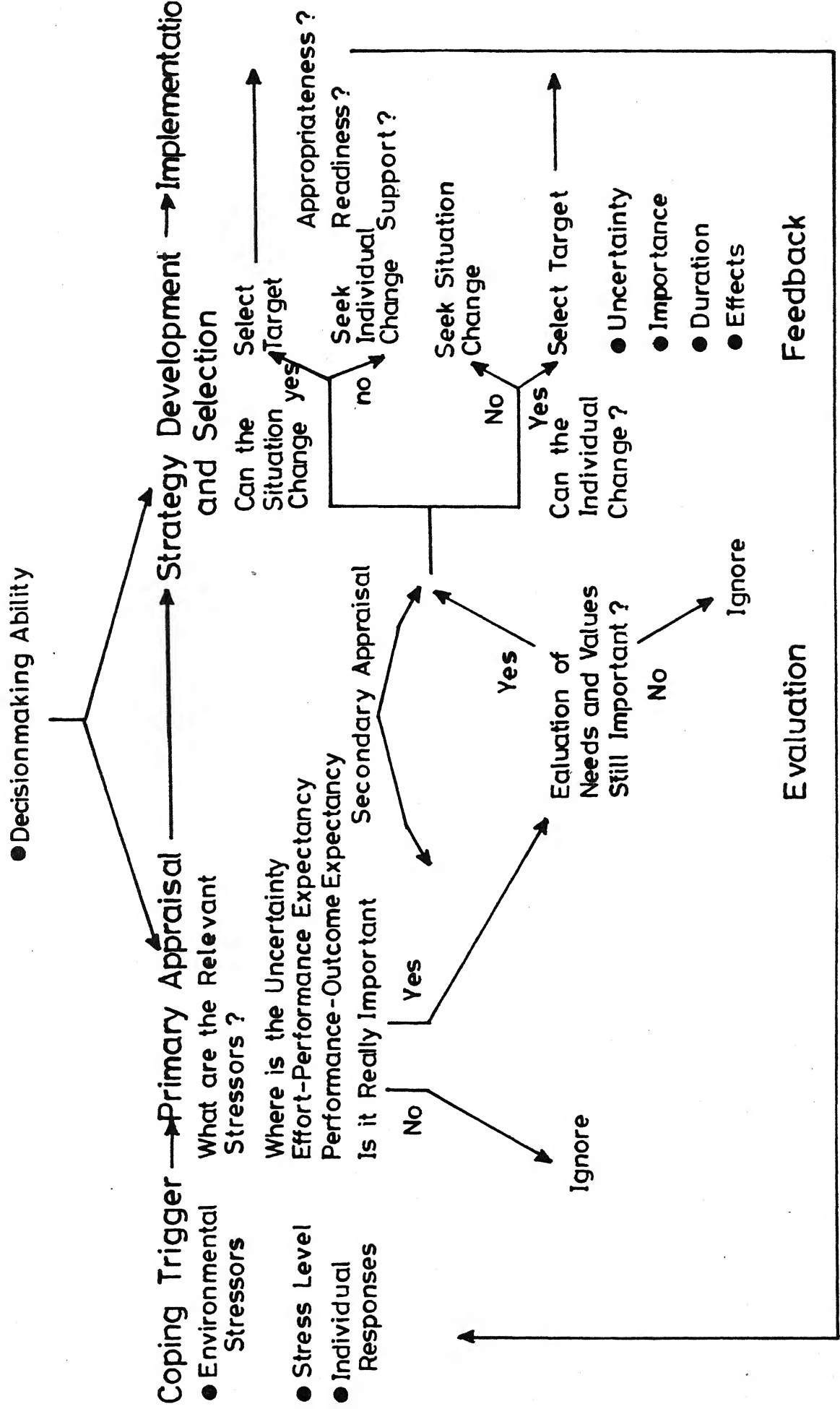
reaction to perception of threat. The reaction may be manifested in a number of ways like anxiety, fear, depression, or other physiological responses. The fourth box of the coping process model represents individual's conscious or unconscious effort of response selection to alleviate or remove feeling of stress. The fifth box of the model represents individual's well-being or illness, manifested by symptoms of mental and physical strain like psychosomatic complaints, fatigue, low morale, job dissatisfaction, and changes in blood chemistry etc. The sixth box represents the outcomes and shows that work related strain, if prolonged and remained unresolved, can result in psychological and physical breakdown which Selye (1946) calls exhaustion like mental illness, and sometimes may result even in the occurrence of coronary heart disease. The seventh and the last box of the model includes a number of individual characteristics which mediate cognitive appraisal (Box 2 ) and coping behavior process (Box 4) of individuals. These include person's ability, experience, and personality factors etc.

#### Schuler's Model of Coping

The major postulates of this model may be summarized as depicted in Figure 9 .

Based on previous literature and definitions of coping, Schuler (1982, 1984) proposed an integrative transactional process model of coping in work setting. The model has seven





**Figure 9.** Schuler's (1982, 1984) Model of Coping.

aspects (a) the coping trigger, (b) primary appraisal, (c) secondary appraisal, (d) strategy development and selection, (e) strategy implementation, (f) strategy evaluation, and (g) feedback. A coping process cycle is formed by integrating all these. These aspects deserve a little more elaboration.

Coping trigger. An individual initiates coping in response to perception of threat, i.e., stress. The perception of threat works as a trigger to start a coping cycle.

Primary appraisal. It includes responses to three questions (a) what is the relevant stress? (b) where is uncertainty? and (c) is it really important? In response to the first question, individual seeks to identify the potential sources of stress. Then the individual tries to find out whether uncertainty is associated with effort - performance relationship or with performance - outcome relationship. Individual's accuracy in perceiving the degree and type of uncertainty has important implications for choosing a coping strategy. Individual's personal qualities like cognitive complexity, problem solving abilities, and decision making also play important role in primary appraisal process. In response to the third question (is it really important?), if answer is no, coping process is terminated. If the answer is yes, then the secondary appraisal process starts.

Secondary appraisal. It starts with an analysis of why the stressful situation is really important? This requires

the individual to analyse what needs and values are related with stress? The analysis is crucial because it is decided at this juncture whether this situation is really important? If yes, why it is important? Such diagnosis is important in deciding and developing appropriate coping strategies. After responding to the question (why it is important?), the process proceeds to the stage of seeking an answer to the next question i.e., is it still important? If answer is no, process is terminated. If the answer is still yes, the final question in the secondary process is asked, i.e., what can be altered, the person or the situation? The response to this question initiates the strategy development process.

Strategy development and selection. This is akin to what Lazarus (1971) terms as secondary appraisal. His secondary process includes response to the question that what should I do? This element of coping process actually refers to the behavior to minimize stressfulness of the situation. It may be either a change in situation or a change in person.

Strategy implementation. This is a component of the coping process in which costs and benefits of alternative strategies, readiness for change, and support are analysed. Essentially it is utility analysis (Landy, Farr, & Jacobs, 1982).

Strategy evaluation. It is the stage that comes after the selected strategy has been implemented, a stage where achievements and failures of the coping strategies should be assessed. This can be done at individual, group, or

organizational level. Evaluative studies of coping strategies are rare (Newman & Beehr, 1979). Evaluation, however, is important in order to determine the extent to which the opportunities have been utilized and/or constraints have been successfully removed. Criteria for the evaluation of coping strategies include three types of outcomes of stress, i.e., physiological, psychological, and behavioral. Since the three outcomes are so varied in nature, a multidisciplinary approach is needed in stress research in order to encompass the totality of the various criteria.

Feedback. It is the result of strategy evaluation sent back to the focal person. Evaluation is done over a period of time and so is the feedback of results. Although in order to have stringent evaluation, formal procedures should be established by the individuals and organizations, but an informal evaluation can be made by the individuals. Individuals may probably best be able to make informal judgements about efficacy of coping by using psychological criteria such as job dissatisfaction, anxiety, esteem, and involvement. However, informal evaluation may not satisfactorily work with physiological criteria. Feedbacks provide information about the effectiveness of various coping strategies which may be useful in future for use of such strategies to deal with stressful episodes.

All the models discussed so far consider coping from the individual's point of view. Individually initiated coping in

work situation may be directed either to the organization or to the person as the target of change. Depending on whether the organization or the person is chosen as the target, the individual may try to alter either the organizational or the personal characteristics which are associated with stress.

On the basis of literature review Schuler identified seven aspects of organizations as potential stressors which might be changed. They were organizational structure, relationship, roles, change processes, physical environment, career development, and intrinsic job qualities. Further, Schuler elaborated on one of these seven factors, namely, structure to show the complexity of the phenomenon. In organizational structure, atleast six conditions typically associated with stress could be identified (a) lack of participation, (b) no sense of belonging, (c) poor communication, (d) restrictions on behavior, (e) lack of opportunities for advancement, and (f) inequity in pay and performance evaluations.

To reduce these stresses, several coping strategies may be used including (a) clarification of policies regarding transfer and promotion, (b) decentralization, (c) change in selection and placement policies, (d) change in communication procedures, (e) change in reward system, (f) utilization of training and development programs, (g) statement of performance evaluation system, and (h) change in shift pattern and job rotation policies.

Change in the individual can be brought in three ways, (a) reducing the uncertainty, (b) reducing the importance, and (c) reducing the effect of stress. Uncertainty can be reduced by having exposure to stressful situation, training, educating, interacting with colleague, and confronting with the problem. Importance can be reduced by individuals through defensive techniques like denial, avoidance, withdrawal, and projection. Effects of stress can be reduced by physical exercise, meditation, and social support.

#### Empirical Studies in Coping with Job Related Stress

Newman and Beehr (1979) and Burke and Weir (1980), have presented good reviews of literature addressed to coping with job related stress. Some studies are conceptual, and some are in prescriptive form from popular magazines. Very few of them have empirical bases. Here only the empirical studies would be reviewed. Since this study did not include organizational attempts of coping, studies related to organizationally initiated coping would not be reviewed in detail.

#### Personal Strategies of Coping with Job Related Stress

Personal strategies of coping may be initiated to alter several aspects of person and job situations like psychological and physical conditions, and behavior and work environment. Newman and Beehr (1979) have presented a good review of such studies. Here a brief review of the studies would be

presented.

Transcendental meditation (TM). TM is a technique in which an individual seeks sustained concentration on a single word, idea, or object through which a state of deep physical relaxation and improved mental clarity could presumably be attained.

In popular management literature (Frew, 1974; Kory, 1976) use of TM is advocated as a method of reducing stress without involving any substantial cost. Although many studies have been conducted where the efficacy of TM has been shown but very few attempts have been made to study TM in relation to occupational stress directly.

Frew (1974) examined the relationship between TM and productivity at work on the basis of the data obtained from 42 meditators. It was found that the practice of TM was related with six measures of productivity namely better performance, increased job satisfaction, reduced turnover propensity, better relationship with supervisor, better relationship with peers, and a reduced motivation to climb the hierarchy. Meditators were reported to be higher on productivity scores than nonmeditators and thus TM was prescribed as a preventive and curative personal strategy for the management of job stress. However, these findings need to be taken with caution because the sample in study was small, measures were weak and possible confounding effects were not taken care of. Still another study with larger

sample (Frew, 1977) replicated the earlier study and found similar results. Friend (Cited in Burke & Weir, 1980) replicated and extended Frew's (1974) earlier study. A group of meditators responded to a mailed questionnaire. A control group randomly chosen from telephone directory and a group of master of business administration course students also responded to the same questionnaire. It was found that meditators showed significant improvement on four of the six measures of productivity described above.

Kuna (1975) reviewed studies on meditation as an adaptive response to stresses at work and concluded that TM was an effective personal strategy for handling stress. Kuna did not report any study arguing against TM. Kuna contended that TM had positive effect on work satisfaction, job satisfaction, attention, and on lowering anxiety. Most of the remaining literature is basically prescriptive and speculative (Newman & Beehr, 1979). Implications of TM literature is that individuals may be able to learn to control their psychological and physiological reactions to stress through the use of certain techniques and strategies and some of these (i.e., TM and relaxation) strategies may be used at work place. But further studies with before and after measure of training may be necessary to fully establish the functional utility of TM and relaxation.

Kahn et al. (1964) study. Kahn et al. (1964) tried to identify coping strategies among 53 workers through open



ended questions. They identified four coping strategies that were used, namely, (a) work addiction, (b) cynicism and idealization of others, (c) dependent behavior, and (d) contrived interpersonal conflict. However, they did not claim that these were the only strategies in grab-bag of coping mechanisms.

Hall's (1972) study. Hall studied coping in relation to role conflict among a group of married university educated working women, role conflict under study was presumably due to incompatibility between demands of work and home. Through content analysis of the responses Hall identified 16 coping strategies. Building on Levinson's (1959) classifications, the sixteen strategies were classified into three groups, namely, structural role redefinition, personal role redefinition, and reactive role behavior.

### Social Support

Social support seeking in various forms may be considered as a way of reducing stress. Early studies of social support at work were initiated by French and associates at Michigan University (French & Caplan, 1972). From a series of studies on white collar workers they concluded that social support from peer, subordinate, or supervisor acts as a moderator between the relationship of stress and strain resulting in the reduction of strain. Some other investigators (Caplan et al., 1975; Gore, 1973; Burke, Weir, & Duncan, 1976) also

studied the impact of social support on feeling of stress and strain and, in general, either a moderating effect of social support on stress - strain relationship or a negative relationship between stress and support was reported. Pinneau (1975) proposed that social support processes have three potential effects (a) directly on the source of stress (preventive), (b) directly on the strain or well-being (therapeutic), and (c) a moderating effect on stress - strain relationship (buffering). Individuals with high level of social support would have less probability of stressful transactions with environment resulting in fewer occasions of the experience of strain and ill-health.

Findings of the studies relating social support with stress and strain are still controversial. Some studies (i.e., Burke, Firth, & McGratten, 1974 ; Mansfield, 1972) reported uncertain or ineffective impact of social support. In a recent review of stress - social support relationship, Cohen and Wills (1985) concluded that the presense of both direct effect (preventive and therapeutic) and buffering effect received empirical support, however, these effects represented different underlying processes through which social support affected strain or well-being.

In the above reviewed studies either only fragmented aspects of coping (as seeking social support, and TM) strategies were taken into account or categorization of coping had been done on intuitive basis (e.g., Kahn et al., 1964;

Hall, 1972). Few investigators (Billings & Moos, 1984; Dewe, Guest, & Williams, 1979; Singh & Sinha, In press, a) have tried to study a broader segment of coping repertoire empirically. The empirical approach may provide more insight into the dynamics of stress coping transaction, where a focal person may be asked as to what does (s)he do when faced with problems and pressure in work situation? In Billings and Moos's (1984) study, three broader categories of coping strategies were included or identified, namely, appraisal focused coping, problem focused coping, and emotion focused coping. Similarly, Lazarus (1975) distinguished between problem focused coping and emotion focused coping or palliatives. Dewe et al. (1979) conducted a series of studies and reported that a person may use any of the various coping strategies depending on the situation but did not specifically identify any better or more effective strategy. The study of Singh and Sinha identified seven dimensions of coping strategies which were further classified into three categories as (a) strategies of acting on the source of stress (preventive), (b) acting on the symptomatic effects of stress (curative), and (c) escape from the source and effects of stress (defensive) strategies. The empirical approach to coping is relatively new. Moos and Billings (1982) reported that research in these areas had been limited by the lack of available measures especially in the area of coping. Thus more research is needed to identify and relate coping strategies with stress

and strain.

### Organizational Strategies of Coping

Organizational strategies of coping may include organizational attempts to change its structure and processes, including changes in the role characteristics and job characteristics, to reduce stress.

Since certain structural characteristics and organizational processes have been found to be associated with stressful experiences, organizational attempts to alter these situations may prove effective in reducing feeling of stress and strain. The findings of a series of research at Michigan University (Caplan, 1976; Caplan et al., 1975; French & Caplan, 1972; Harrison, 1975; Kahn & Quinn, 1970; Pinneau, 1975) have suggested the following changes in organizational structure and processes etc. as strategies of coping with stress (a) change in organizational structure (e.g., decentralization, integration, reduction in level of hierarchy or number of communication channels), (b) change in training and placement system, (c) change in reward distribution and resource allocation system, (d) change in transfer and job rotation system, and (e) training managers for human relations etc.

Upto this point, we presented a conceptual synthesis of the various aspects of stress phenomena consisting of the constructs that go under the labels of stress, coping, and strain. This was followed by a description of various models

of stress together with the framework of the present study. Then we proceeded to present an overview of the variables that were included in the study that consisted of the personal factors, organizational factors, and consequences of stress as well as the models of coping with or counteracting stress including some of the empirical studies that could be related to the framework of this study.

As will be shortly described, we subscribed to the notion that the constructs or variables included in this study may have underlying dimensionalities and that the conceptualization of a variable or construct in univariate terms may not be appropriate. Admittedly previous few studies were found that could be of "direct" relevance to the present research. Even so, the literature review was made including the variables of import to (a) pave the way for further treatment of the problem and (b) to present a reasonably comprehensive account of the documented work in the light of which even a reader who is not so familiar with this specific area may appreciate the salience of this work. Wading through the literature, certain issues of research have been identified that seemed to deserve further attention. They are enunciated and dealt with in what follows.

#### Issues Under Investigation

Guided by its purpose, the present research endeavor was exploratory by design. Fraught with inconsistent findings

as the area of stress research has been, it would be unjustified to advance definite hypotheses, and the idea of testing unsound hypotheses would have been any thing but untenable. Whatever interrelationships that have already been studied seemed to be in need of further testing, and untested relationships would need to be explored.

The stress research seems to have been dominated by unidimensional and sometimes univariate conceptualizations of the constructs of import. There is not much use of stretching the viability argument of laboratory experiments against field studies for any serious researcher. One fact that remains, however, is that the reality is complex and its conceptualization arduous. There could always be a possibility of multidimensionality underlying the constructs supposed to be reflective of the social realities. If they exist, their identification should be a subject of investigation only after which the precise nature and composition of the dimensions could be realized. The interactions of (thus identified) dimensions of one construct with (similarly identified) dimensions of another construct would produce a considerably more complex but at the same time more realistic pattern reflective of the situational dynamism compared to the pattern one could aspire to get through unidimensional conceptualization of the constructs.

The present research was aimed at the identification of certain important constructs in the stress phenomena at the

conceptual level. Identification of the constructs would largely be a culmination of the knowledge gained through literature review and pre-pilot experiences in the organizational settings.

Once the variables of import would get identified, they would be further conceptualized in the categories of antecedents and consequences of stress. Of course two more categories would find place in the paradigms, namely, the construct stress itself, and the constructs that could be labeled as mediating variables (or the variables having ramification for the management of stress).

Having subscribed to the notions that the constructs would consist of underlying dimensionalities, that a multivariate conceptualization would be a worthwhile exercise, and that preconceived univariate hypotheses may not be sufficient to tap the subtle nuances of the real life setting, the following research issues were identified to guide the course of research.

1. What are the empirical dimensions of the constructs under study?
2. What are the interrelationships between dimensions of antecedents of stress and stress dimensions?
3. What are the important dimensions of personal and organizational factors which discriminate between high and low magnitude of the dimensions of stress, and that of strain.
4. What are the relationships between the dimensions of stress and that of coping strategies?

5. What kind of coping strategies discriminate between low and high magnitude of the dimensions of stress?
6. What are the relationships between the dimensions of stress and strain?
7. What are the relationships between the dimensions of coping strategies and that of strain?
8. What kind of coping strategies discriminate between low and high magnitude of the dimensions of strain?
9. What are the relationships of the dimensions of stress, that of coping strategies with the dimensions of strain?
10. How the various dimensions of stress, coping, strain, and outcome variables differ on the average across the factors of the public and private ownership, and lower and higher hierarchical levels of role incumbent.
11. What are the pattern of relationships of the dimensions of stress with individual performance?
12. What are the interrelationships of the dimensions of strain with that of outcome variables.

Fully aware though the investigator has been of the rather conspicuous absence of hypotheses making use of any one to one correspondence in the traditional and univariate terms, advancement of any such hypothesis was abstained from for the reasons already mentioned, and additionally because once the dimensionality and dimensional configuration are not specifiable in advance, any adhoc hypothesizing could be pseudo-scientific.



## Chapter 2

### Method

#### Sample

The sample consisted of 250 male executives drawn from the middle and lower hierarchical levels of the respective organizations. Ten work organizations of north India were included in the sample. Although the characteristics of relevance to the approach of the present study were the hierarchical level and ownership, certain other characteristics of the organizations are also summarized in Table 1 that may help in a better visualization of the sample.

A glance at Table 1 is likely to reveal the heterogeneity of the organizational and respondents' sampling, something which is traditionally supposed to be less than perfect. The investigator was perceptive of this fact. However, there were two considerations for going ahead with this kind of sample. Firstly, the practical constraints under which this study was being conducted made it difficult to homogenize the sample (e.g., in terms of product mix, size etc.). Secondly, the heterogeneity of the sample might be thought to be a positive feature rather than a drawback lending itself to the wider generalizability of the findings. Such a stand has been taken elsewhere also (Khandwalla, 1983, 1985).

Table 1

Summary of the Organizational Characteristics and Number of Respondents

Organi- zation No.	No.of Emplo- yees	Major Produ- ct	Industrial categori- zation	Ownership	Respondents in the sample		
					Low Level	High Level	Total
1	1100	Poly fabrics	Textile	Private	15	10	25
2	3000	Poly Fabrics	Textile	Private	13	12	25
3	2100	Pipes and tubes etc.	Engineer- ing	Private	15	10	25
4	300	Elevators and spare parts	Engineer- ing	Private	15	10	25
5	400	Television	Electronics	Private	15	10	25
6.	800	Cigarette	Agrobased	Private	17	8	25
7	500	Drugs	Chemical	Private	15	10	25
8	4500	Telephone equipments	Electronics	Public	15	10	25
9	700	Solar equipments	Electronics	Public	15	10	25
10	1900	Pumps and tubes	Engineering	Public	15	10	25

## Measures

Form 1 : Stress questionnaire. This questionnaire consisted of 35 questions about job related stress. In order to break the response set both positively and negatively keyed items were included. Specifically the questionnaire consisted of items purported to measure role conflict, role ambiguity, role overload, capability - demand mismatch, authority inadequacy, job difficulty, inequity, lack of supervisory and group support etc. The items used in this questionnaire were written for this study and were also adapted from many sources (e.g., Quinn & Shepard, 1974; Hemphill & Coons, cited in Beehr, 1976; Seashore, 1954).

Form 2 : Biodata questionnaire. This form consisted of 16 items seeking information about age, education, career, experience, and self evaluation etc.

Form 3 : Locus of Control questionnaire. This questionnaire was adapted from Levenson (1974) to assess the locus of control. It consisted of 24 items measuring control of events by self, luck or chance, and significant others.

Form 4 : Entrepreneurial orientation questionnaire. It consisted of 9 items regarding innovative tendency, risk taking, and competitiveness. The questions were of both positively and negatively keyed type.

Form 5 : Work ethic questionnaire. This form was adapted from Blood (1969) and consisted of 8 items regarding instrumental and expressive work attitudes.

Form 6: Organizational climate questionnaire. This form consisted of 49 items of various dimensions of organizational structure and processes. Mainly items were adapted from Litwin and Stringer (1968) and Pareek (1979). Also many fresh items were written for the purpose of this study.

Form 7: Leadership style questionnaire. It consisted of 9 items regarding leader's way of working, direction, suggestion, liking, and disliking etc.

Form 8: Job characteristics questionnaire. It consisted of 30 questions tracing information about ten aspects of job, e.g., opportunities of promotion, opportunities to use abilities etc.

Form 9: Strain questionnaire. This questionnaire consisted of 35 items measuring individual strain. The items were of both forward and reversed nature. Specifically it consisted of items related to frustration, psychophysical symptoms, latent hostility etc. The items used in this questionnaire were adapted from many sources (e.g., Quinn & Shepard, 1974; Keenan & Newton, 1984; Parker & DeCotiis, 1983).

Form 10: Questionnaire of coping strategies. This form used 20 items related to problem solving, information search, withdrawal behavior etc. as mode of handling stress. The sources for the items used in this questionnaire were Billings and Moos (1984) and Singh and Sinha (In press, a ).

Form 11: Organizational effectiveness questionnaire. This questionnaire is adapted from Sutton and Ford (1982) to assess

personal, superiors, and organizational effectiveness through 13 items.

Form 12: Organizational commitment questionnaire. This questionnaire was adapted from Cook and Wall (1980) to assess organizational commitment. It consisted of 9 items.

Form 13: Job satisfaction questionnaire. This form consisted of 20 items purporting the measure satisfaction about various aspects of the job.

Form 14: Intent to leave questionnaire. This form consisted of only one item stating: I intend to leave this organization as soon as possible.

Form 15: Alienation questionnaire. This also was a single item questionnaire consisting of the item: In this organization I feel alienated.

Form 16: Sense of power questionnaire. This questionnaire again used a single item: I have a sense of power in this organization.

The complete set of questionnaires used in this study appears in Appendix A.

### Procedure

Factually speaking the study did not or rather could not make use of random sampling procedure in selecting organizations. The constraints were too many regarding resources and time. Operating within the constraints the organizations were selected as follows.

An inventory of the work organizations located in north India and employing at least 300 employees was prepared using the documented sources of information. The criterion of 300 employees was arbitrary but was maintained in order to avoid the inclusion of very small scale enterprises. The geographical region of the sample was kept to be north India largely for the purpose of convenience. The list of organizations was initially prepared with a view to have variations on a number of structural characteristics. The organizations were approached through letters of request for organizational entry and support in data collection. The response rate was below even the most conservative estimate. The number of organizations responding being insufficient, some more organizations had to be approached personally after which permission from 10 organizations only in total could be obtained for data collection within the proposed time limit. Nonavailability of various (types of) organizations put a constraint over the variety of structural characteristics that could be investigated and consequently the ownership (public/private) was the only characteristic on which some variance could presumably be obtained. Much as the investigator would have liked, it could not be feasible to homogenize or cluster the organization on product mix, size and such other variables. The participation of the organizations, it may be added, was completely voluntary. However, as desired by most organizations a promise of complete confidentiality of

the data and contextual anonymity of the respective organizations had to be made.

It was planned to take 25 respondents from each one of the ten organizations in the sample. The respondents in each organization would belong to two hierarchical "levels". One relatively "higher" level, i.e., closer to the top management level; and the other relatively "lower" level, i.e., closer to the lower level executives in terms of status and salary. The exact number of respondents under each level and organization appear in Table 1. An attempt was made to make a random selection of the respondents from within a large group wherever available. Also, it was attempted to get a fair representation of maximum number of departments in each organization. However, unfortunately, it must be admitted that the criteria of both random sampling and departmental representation could not be met in few cases.

The respondents, once identified, were approached mostly during off-duty hours, however, some of them responded in their duty hours also with permission from their respective relevant superior authorities. Data were obtained through structured interview schedules and in privacy as far as practicable. Each respondent was given a chance and right to refuse the participation in study.

## Chapter 3

### Results

#### Exploring the Underlying Dimensions of the Constructs

It had been realized, as would be recalled from introduction section, that the variables, concepts, and constructs making for the issues under investigation could have underlying multidimensional structure. To explore the underlying dimensionalities, the data obtained through the nonsingle item schedules or forms (13 forms out of 16 in total), were subjected to factor analyses (principal factoring with iterations and oblique rotation). Attempt was made to keep the factors nonoverlapping in the sense that no item was included in more than one factor within a form. Such a procedure has been adopted by others also (e.g., Garrison & Pate 1977). The factor naming was accomplished by a panel of five doctoral students in psychology.

An account of the factor labels pertaining to the respective schedule forms follows (for statistical properties of the factor analyses, Appendix B may be referred to).

Form 1: Stress questionnaire. It consisted of 35 items culminating in 10 factors. They were named as follows.

1. Lack of group cohesiveness (LGC)
2. Role conflict (RC)
3. Feeling of inequity (FI)
4. Role ambiguity (RA)
5. Role overload (RO)



6. Lack of supervisory support (LSS)
7. Constraints of change and rule regulations (CCRR)
8. Job difficulty (JD)
9. Job requirement - capability mismatch (JRCM)
10. Inadequacy of role authority (IRA)

Form 2: Biodata questionnaire. This form consisted of 16 items. Factor analysis yielded 4 significant factors. They were labeled as follows.

1. Career success (CS)
2. Variety of experience (VE)
3. Seniority (SY)
4. Status (ST)

Form 3: Locus of control questionnaire. This was primarily Levenson's (1974) 24-item scale. Eight significant factors were obtained through factor analysis. They were named as follows.

1. Lack of future planning and dependence on luck and other people (LFDLOP)
2. Self control (SC)
3. Control of accidents and powerful people (CACP)
4. Control of luck and powerful people (CLP)
5. Control of ability and powerful people (CABP)
6. Congruence of plans with powerful people (CPPP)
7. Diffusion of responsibility (DR)
8. Internality in project completion and cultivating friendship (IPCCF)

Form 4: Entrepreneurial orientation questionnaire. This form yielded 3 significant factors and were named as follows.

1. Achievement orientation (AO)
2. Subsistence level work effort (SLWE)
3. Preference for certainty and autonomy (PCA)

Form 5: Work ethic questionnaire. This form yielded two significant factors when subjected to factor analysis, they were the following ones.

1. Expressive work ethic (EWE)
2. Instrumental work ethic (IWE)

Form 6: Organizational climate questionnaire. This form consisted of 49 items. Fourteen significant factors emerged from the factor analysis. Factors were named as follows.

1. Interpersonal help (IH)
2. Strict formalization (SF)
3. Organizational risk taking (ORT)
4. Autonomy and pressure for performance (APP)
5. Centralization (C)
6. Decentralized liberal decision making (DLDM)
7. Nonparticipative climate (NPC)
8. Self protection, mistrust, and lack of reward (SPMLR)
9. Nonformalization (NF)
10. Formalized cross-checking (FCC)
11. Inadequate welfare concern (IWC)
12. Formalized communication (FC)

13. Competence and expertise nonrecognition (CENR)

14. Authoritarian climate (AC)

Form 7: Leadership style questionnaire. This form consisted of 9 items. Factor analysis yielded 3 significant factors. Factors were named as follows.

1. Nurturant task leadership style (NTLS)
2. Task oriented leadership style (TOLS)
3. Nonauthoritarian leadership style (NALS)

Form 8: Job characteristics questionnaire. Factor analysis of the data yielded 3 significant factors and were named as follows.

1. Advancement opportunities (ADO)
2. Job variety and responsibility (JVR)
3. Job identity and feedback (JIF)

Form 9: Strain questionnaire. This form yielded 8 significant factors. Factors were named as follows.

1. Frustration (F)
2. Lack of leisure time (LLT)
3. Feeling of uneasiness (FU)
4. Physical symptomatic strain (PSS)
5. Work aversion (WA)
6. Bearing other's incompetence (BOI)
7. Unjust work and reward (UWR)
8. Latent hostility (LH)

Form 10: Questionnaire of coping strategies. This form yielded 4 significant factors and were named as follows.

1. Active problem solving (APS)
2. Nondirectional work approach (NDWA)
3. Constructive deferred problem solving (CDPS)
4. Information seeking (IS)

Form 11: Organizational effectiveness questionnaire. This form yielded 2 significant factors which were named as follows.

1. Organizational and superior's effectiveness (OSE)
2. Personal effectiveness (PEF)

Form 12: Organizational commitment questionnaire. This form yielded 2 significant factors and were named as follows.

1. Organizational pride and contribution (OPC)
2. Organizational attachment (OA)

Form 13: Job satisfaction questionnaire. This form yielded two significant factors, but all the items loaded significantly higher on the first factor only. Therefore, only one factor of job satisfaction was considered and the factor was named as Job satisfaction (JS).

Abbreviations of the names of the factors will be used in tabular presentations only.

A keen reader is likely to notice a characteristic of certain dimensions of the constructs that may even be interpreted as a "flaw" in measurement and scaling. For example, a factor of stress was identified as group cohesiveness. Apparently in terms of face validity, (group)

cohesiveness might form a dimension of nonstress rather than of stress situation. There would be other instances of such "fallacies" at some more places. Though the investigator was aware of such "fallacies", they were retained for defendable reasons. The reasons were the following. The psychometric theory of tests and measurements (Kerlinger, 1978; Nunnally, 1981; Guilford, 1954) recommends the use of both positively and negatively keyed multiitem measures for the measurement of the constructs. Once a scale utilizes negatively keyed items and the investigator plans to use such a scale in relation to further statistical analyses, normally two options are available. First and the common option would be to reverse score the negatively keyed items so that all the items measure a construct in the same direction of magnitude. However, a reverse scored negatively keyed item may not, strictly speaking, be representative of a construct compared to the case when it were purported to be measured through a directly (positively) keyed item at least in certain specified cases. The idea needs a little more explanation. Take for instance the three variables of honesty, dishonesty, and cheating. In a multiitem measure of the construct of say "social honesty", a negatively keyed item may use the term dishonesty. Presumably here there would be little problem because dishonesty and honesty may be thought of as forming the two poles of the same continuum. Dictionary meaning wise also one is the antonym of the other. However, suppose in the

multiitem measure of social honesty, an item includes the word cheating, with the presumption that cheating would be a negative facet of social honesty. It should be apparent that cheating does not bear the same qualitative negative relationship with honesty as dishonesty does. The idea is that in a multiitem measure "each item tends to correlate with the attribute in question, but also correlates with the attributes other than the one being measured. In addition, each item has a considerable specificity;..." (Nunnally, 1981, p. 67). This study made use of multiitem measures (with positively and negatively keyed items) with the objective of finding out the underlying dimensions of the most of the constructs under investigation through factor analysis. The factors would represent the various dimensions of the domain of constructs under investigation. Once identified, the interpretation of a factor in either negative or positive terms in the context of the construct from which the factors were extracted would be a matter of conceptual convenience. Statistically also, it would be a matter of using a negative or positive constant quantity as the case may be which would be unlikely to affect the interpretation aspects of the statistical analysis (provided due attention is paid to the directionality). Therefore, after construction part of the measures was accomplished no attempt was made to reverse score the items. However, for conceptual convenience the factors were named in a way so that a high score on such factors would

correspond to the inference of a high magnitude of the construct.

Few factor analyses yielded single (dominant) item factors also. The literature does not take any clear stand on the use of single item factors. Some consider it to be notoriously unreliable and drop such factors in the further analyses. On the other hand some investigators (Cooley & Lohnes, 1971; Sinha, 1983) have retained them. The present investigator feels that a single item factor emerges because it carries an identity separate from other factors and deserves attention despite its reliability being somewhat low compared to the multiitem factors. So the single item "factors" were also included as variables in the study.

All inclusive, there were 13 forms or questionnaires that culminated into 64 dimensions in total. Additionally, there were 3 variables representing 3 constructs namely, intent to leave, alienation, and sense of power that could not be factor analysed due to their being singleitem measures. Moreover, an index of happy work life was also computed. In aggregate, then, there were 68 variables, that were included in the study which formed the basis of further analyses.

Even though not of primary interest due to the nature of conceptualization of the issues under investigation, for the purpose of a first level comprehension of the pattern of relationship among the variables under study, coefficients of product - moment correlation were computed. The problem of multicollinearity was not serious because the coefficients

were less than 0.85 which is a cut - off point for assuming multicollinearity in most cases (Althauser, 1972). The intercorrelations among the 68 variables under investigation appear in Appendix C which may be referred to if an understanding of a less sophisticated level regarding the interrelationship is desired. The Appendix C could also be useful for clarifications of complex relationships in relatively simplistic terms. However, it should be noted that the zero-order intercorrelations represent a straight forward relationship between any two measures, considered in isolation from other variables that may have interactions with these variables. The point that is being made is that the nature of relationship between any two variables may not be the same in a multivariate situation as they have in a simple zero-order correlation situation, thus caution should be exercised in attempting to interpret, substantiate, or refute the results of multivariate analyses by using the intercorrelation (or other univariate statistic results, for that matter).

Having explored and identified the empirically arrived at dimensions of the major variables under study, the immediate research question of interest was what are the interrelationships between dimensions of the antecedents of stress and stress dimensions? The answer to this question was sought through canonical correlation analysis (Tatsuoka, 1971; Rao, 1973). Although the tabular presentations would be inclusive of all the obtained statistical coefficients, for the sake of brevity and clarity of presentation, only the canonical coefficients (CC) of values of 0.20 and larger would be described in the



text, nevertheless appropriate tables may be referred to for finer understanding if desired.

Interrelationships of personal and organizational factors with the dimensions of stress. The left hand set consisted of 37 factors, while the right hand set consisted of 10 of it. Thus at the maximum ten canonical correlations could be computed. All the obtained canonical correlations were significant.

The first canonical correlation explained 79 per cent of shared variance between personal and organizational antecedents and the dimensions of stress (Table 2). The results showed that a stress situation consisting of role overload, supervisory support, lack of constraints of change and rule regulations, and lack of inadequacy of role authority; was related to personal and organizational antecedents consisting of lack of variety of experience, seniority, luck and powerful people control orientation, lack of organizational risk taking, recognition of competence and expertise, lack of centralization, and lack of decentralized liberal decision making.

The second canonical correlation suggested that a stress situation constituting of lack of role conflict, presence of role ambiguity, lack of constraints of change and rule regulations; was related to the combination of personal and organizational variables consisting of lack of control of luck and powerful people, control of accident and powerful others, lack of strict formalization, lack of autonomy and

Table 2

Canonical Correlations of Personal and Organizational Factors with Stress Dimensions

Factors	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>
	1	2	3	4	5	6	7	8	9	10
<u>Left hand Set</u>										
CS	04	02	22	-21	03	04	-14	-24	12	14
VE	-22	09	-08	-01	-03	01	06	36	00	17
SY	27	-05	24	-23	-11	-10	-34	-02	-21	-01
ST*	-07	09	-22	10	11	-09	-12	28	00	20
LFDLOP	14	03	-49	-04	-01	27	29	12	-03	-04
SC	15	03	-17	-01	01	15	24	00	24	03
CACP	12	24	44	-02	04	-04	03	34	41	21
CLP	29	-35	-07	-04	12	-11	-02	-39	-07	-06
CABP	08	-14	05	16	07	-14	19	-01	-12	32
CPPP	02	04	14	-11	-05	05	-01	02	17	-22
DR	09	03	21	05	41	02	-18	01	-09	24
IPCCF	22	-08	-06	-06	21	27	07	22	00	-12
AO	-19	-04	-06	-02	18	11	20	-02	-27	-04
SLWE	-13	-01	-38	-03	-16	23	12	-08	-06	-17
PCA	-03	-04	29	-30	08	06	-19	23	26	02
EWE	11	04	03	-04	-14	-02	-04	13	-18	-06
IWE	-01	01	05	-23	10	05	-08	13	-10	-06
IH	10	-06	-06	-11	-13	27	-49	04	16	-30
SF	-16	-38	03	10	08	11	-29	-15	-05	-02
ORT	21	16	-13	14	-10	06	-03	-25	-11	21
APP	10	-31	-07	30	-16	-15	-16	-09	21	-19
C	-36	-31	-08	-28	09	-02	09	-19	-04	-06
DLDM	-24	-10	31	20	-31	14	37	-15	-03	-20
NPC	-16	10	-20	03	12	12	03	00	03	-41

(Contd...)

(Contd....)

Factors	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>
	1	2	3	4	5	6	7	8	9	10
SPMLR	18	01	14	15	-10	-05	-16	04	-07	01
NF	05	52	08	-06	40	08	-27	-37	09	-09
FCC	-02	01	13	15	-14	-19	-05	01	00	-07
IWC	-06	-08	09	02	-06	14	-07	-05	-17	-06
FC	-09	01	28	11	35	-07	-10	02	12	-08
CENR	-24	-02	-11	06	-10	-45	-19	-12	21	12
AC	03	-14	-11	-42	-37	12	-14	-18	-31	-05
NTLS	03	-09	07	01	-15	-32	02	-04	04	-08
TOLS	11	-06	-10	-04	11	02	-02	-24	-09	12
NALS	-03	21	09	-23	-25	10	-11	38	15	23
ADO	13	-08	48	08	-14	36	-17	-19	25	03
JVR	-02	14	-30	10	09	-47	04	-01	-05	-21
JIF	07	-21	00	09	16	-24	-03	22	-27	-01

Right hand  
Set

LGC*	19	-02	-04	-14	23	69	-04	19	52	-22
RC	01	-32	-02	-17	-41	-47	-20	22	65	04
FI*	07	-03	29	29	19	-32	49	-34	17	-40
RA*	19	-48	20	-39	-19	-02	52	34	-11	27
RO*	-76	-11	70	-14	-21	02	-18	48	32	-10
ISS*	24	-13	37	67	-07	-02	-42	10	-11	52
CCRR	-49	-78	-02	02	28	16	-14	-35	-02	-01
JD	-04	-07	-31	38	-24	14	00	26	-28	-54
JRCM	-10	13	-27	33	-39	39	32	-16	27	33
IRA*	20	08	28	-16	-61	03	-35	-47	-04	-17

<u>Rc</u>	.89	.82	.81	.77	.70	.67	.59	.54	.50	.47
$\chi^2$	1624.08	1275.86	1023.62	785.84	584.75	435.12	299.19	201.04	121.73	56.12
<u>df</u>	370	324	280	238	198	160	124	90	58	28
<u>p</u> <	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01

\* = Reversed ; Decimal points have been omitted from the CC's.

pressure for performance, lack of centralization, lack of job identity and feedback, self protection and mistrust, and nonauthoritarian leadership style.

The third canonical correlation revealed that a stress situation constructed by lack of inequity, lack of role ambiguity, lack of role overload, supervisory support, lack of job difficulty, lack of job requirement-capability mismatch, and role authority; was related to a linear combination of career success, seniority, status, lack of future planning and dependence on luck and significant people, control of accident and powerful people, responsibility diffusion, lack of subsistence level work effort, preference for certainty and autonomy, decentralized liberal decision making, lack of authoritarian climate, formalized climate, advancement opportunities, and lack of job variety and responsibility.

The fourth canonical correlation indicated that a stress situation formed by lack of inequity, role ambiguity, supervisory support, job difficulty, and job requirement - capability mismatch; was related to a combination of personal and organizational antecedents, namely, lack of career success, lack of seniority, lack of preference for certainty and autonomy, lack of instrumental work ethic, autonomy and pressure for performance, lack of centralization, decentralized liberal decision making, lack of authoritarian climate, and lack of nonauthoritarian leadership style.

The fifth canonical correlation showed that a stress situation created by a combination of group cohesiveness, lack of role conflict, role overload, constraints of change and rule regulations, job difficulty, lack of job requirement - capability mismatch, and inadequacy of role authority; was related to a linear composition of personal and organizational antecedents, namely, diffusion of responsibility, internality in project completion and cultivating friendship, lack of decentralized liberal decision making, nonformalization, formalized communication, lack of authoritarian climate, and lack of nonauthoritarian leadership style.

The sixth canonical correlation showed that a stress situation consisting of a combination of group cohesiveness, lack of role conflict, feeling of inequity, and job requirement - capability mismatch; was related to a combination of personal and organizational antecedents consisting of lack of future planning and dependence on luck and significant others, internality in project completion and cultivating friendship, subsistence level work effort, interpersonal help, lack of competence and expertise nonrecognition, advancement opportunities, lack of job variety and responsibility, and job identity and feedback.

The seventh canonical correlation revealed that a stress situation formed by lack of role conflict, lack of inequity, lack of role ambiguity, lack of supervisory support, job

requirement - capability mismatch, and inadequacy of role authority; was related to a combination of personal and organizational antecedents formed by lack of seniority, lack of future planning and dependence on luck and significant others, self control over events, achievement orientation, lack of interpersonal help, lack of strict formalization, decentralized liberal decision making, and lack of nonformalization.

The eighth canonical correlation suggested that a stress situation formed by lack of role overload, lack of constraints of change and rule regulations, job difficulty, and inadequacy of role authority, role conflict, feeling of inequity, and lack of ambiguity; was related to a combination of personal and organizational antecedents consisting of lack of career success, experience variety, lack of status, control of accident and powerful others, internality in project completion and cultivating friendship, preference for certainty and autonomy, lack of organizational risk taking, lack of nonformalization, nonauthoritarian and nontask oriented leadership style, and job identity and feedback.

The ninth canonical correlation showed that a stress situation containing group cohesiveness, role conflict, lack of role overload, lack of job difficulty, and job requirement - capability mismatch; was related to a combination of personal and organizational antecedents saliently formed by lack of seniority, self control over events, control of

accident and powerful others, lack of achievement orientation, preference for certainty and autonomy, autonomy and pressure for performance, competence and expertise nonrecognition, lack of authoritarian climate, advancement opportunities, and lack of job identity and feedback.

The tenth canonical correlation indicated that a stress situation consisting of lack of group cohesiveness, feeling of inequity, lack of role ambiguity, supervisory support, lack of job difficulty, and job requirement - capability mismatch; was related to a combination of personal and organizational antecedents saliently containing lack of status, control of accidents and powerful others, control of ability and powerful others, lack of congruence of plans with powerful others, diffusion of responsibility, lack of interpersonal help, organizational risk taking, lack of decentralized liberal decision making, lack of nonparticipative climate, nonauthoritarian leadership style, and lack of job variety and responsibility.

The next research question of interest was what are the important dimensions of personal and organizational factors which discriminate between high and low magnitude of the dimensions of stress and strain? This question was sought to be answered through the discriminant analysis (Tatsuoka, 1970). This analysis was useful for diagnostic purposes. The scores on the dimensions of stress were on continuous scale, thus were dichotomized through median split to form high and low

stress groups.

The dimensions of personal (antecedent) factors and stress.

All the factors of biodata questionnaire, locus of control, entrepreneurial orientation, and work ethic, 17 in total were included to derive the discriminant function. (Table 3 ).

Lack of group cohesiveness was not minimally discriminated ( $F > 1.00$ ) by the variables of status, lack of future planning and dependence on luck and significant others, control of accident and powerful others, subsistence level work effort, preference for certainty and autonomy, and expressive and instrumental work ethic. These were consequently dropped from the equation. Henceforth no reference would be made to the factors dropped from the equation and factors yielding standardized discriminant coefficients less than .20. The factors dropped from the equation would be represented by VD in tabular presentation.

Internality in project completion and cultivating friendship, self control, control of luck and powerful others, control of ability and powerful others, lack of experience variety, and diffusion of responsibility discriminated between the groups high and low on lack of group cohesiveness. The centroids of the groups suggested that high (on lack of group cohesiveness) group had lower mean on standardized discriminant function (SDF) than its low counterpart. It indicated that this linear combination of variables was conducive to group cohesiveness.



Table 3

Standardized Discriminant Function Coefficients of Personal Factors for Stress Dimensions

Factors	Stress Dimensions									
	LGC*	RC	FI*	RA*	RO*	LSS*	CCRR	JD	JRCM	IRA*
	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>
	1	2	3	4	5	6	7	8	9	10
CS	-.15	VD	.32	-.38	-.25	-.30	-.57	-.22	VD	-.36
VE	-.25	-.15	VD	VD	-.27	VD	VD	VD	.33	.26
SY	.17	VD	VD	VD	.14	-.33	.16	VD	-.43	-.23
ST*	VD	.32	VD	.28	VD	-.29	VD	.28	.12	.38
LFDLDP	VD	.27	-.62	-.36	.25	.54	.30	.57	VD	.39
SC	.37	.18	VD	-.31	VD	VD	-.38	VD	.21	VD
CACF	VD	.33	VD	VD	-.14	VD	.19	-.35	-.26	.33
CLP	.47	.32	.54	VD	.58	-.51	-.44	VD	-.17	-.17
CABP	.40	VD	VD	VD	.34	-.31	VD	-.41	VD	-.15
CPPP	.18	VD	.36	-.18	-.19	VD	.26	VD	-.13	-.38
DR	.21	-.17	VD	.26	.40	-.31	.21	VD	-.41	.16
IPCCF	.50	VD	VD	-.12	.20	VD	VD	-.28	VD	.45
AO	.14	-.40	VD	-.22	-.27	VD	-.37	.32	VD	VD
SLWE	VD	VD	-.49	-.31	-.10	.21	-.40	.71	.18	VD
PCA	VD	VD	-.23	.19	-.22	VD	VD	-.29	VD	VD
EWE	VD	VD	VD	-.32	.28	-.35	.18	.66	-.25	-.39
IWE	VD	.16	-.41	-.47	VD	.48	-.28	VD	-.30	.19
<u>RC</u>	.47	.50	.30	.56	.60	.42	.47	.37	.54	.44
<u>R</u> <sup>2</sup>	59.43	68.69	23.23	92.40	108.04	48.06	59.13	34.85	81.75	52.47
<u>df</u>	10	9	7	12	13	10	12	10	11	13
<u>p</u>	.01	.01	.02	.01	.01	.01	.01	.01	.01	.01
Group 1	-.48	-.43	-.32	.52	.62	.41	.40	-.27	-.48	.35
Group 2	.45	.58	.29	-.60	-.58	-.43	-.54	.49	.59	-.55

\* = Reversed, VD = Variables dropped from the equation.  
 Decimal points have been omitted from the D's.

The obtained SDF for role conflict significantly discriminated between the high and low groups. The results indicated that achievement orientation was the strongest factor in discrimination and had a negative loading on SDF. Control of luck and powerful others, control of accident and powerful others, lack of status, and lack of future planning and dependence on powerful others were also discriminating variables and had positive association with the SDF. High role conflict group had higher mean on the SDF suggesting that the coefficients of factors having positive sign were conducive to high role conflict. (group 2).

The SDF derived for feeling of inequity was statistically significant. The strongest discriminating factor was lack of future planning and dependence on luck and significant others suggesting that higher degree of this orientation was related with high feeling of inequity. Control of luck and powerful others, lack of subsistence level work effort, lack of instrumental work ethic, congruence of plans with powerful others, career success, and lack of preference for certainty and autonomy in combination discriminated between the high and low inequity groups having its higher mean in low inequity group (group 2).

The SDF derived for role ambiguity was found to be statistically significant. Instrumental work ethic was the most potent discriminating factor having its lower mean in high role ambiguity group. A linear combination of lack of

instrumental work ethic, lack of career success, (lack of) lack of future planning and dependence on luck and significant others, lack of expressive work ethic, lack of subsistence level work effort, lack of self control, lack of status, diffusion of responsibility, and lack of achievement orientation discriminated significantly between the high and low role ambiguity groups having its higher mean for high role ambiguity group (group 1).

The SDF derived for role overload was statistically significant. The strongest discriminating factor was control of accidents and powerful others. A high score on this factor was associated with high role overload. Other discriminating factors whose high scores were associated with high role overload were diffusion of responsibility, control of ability and powerful others, expressive work ethic, and lack of future planning and dependence on luck and significant others. The factors having low mean score in high role overload group were achievement orientation, experience variety, career success, lack of preference for certainty and autonomy, and internality in project completion and cultivating friendship.

The SDF for lack of supervisory support derived from a linear composite of personal antecedent factors significantly discriminated between the low and high groups. The group high on lack of supervisory support had higher mean on the SDF than its low counterpart. A linear combination of lack of future planning and dependence on luck and significant others, lack of

control of luck and powerful others, instrumental work ethic, lack of expressive work ethic, lack of seniority, lack of control of ability and powerful others, lack of diffusion of responsibility, lack of career success, status, and subsistence level work effort was positively associated with lack of supervisory support.

The SDF derived for constraints of change and rule regulations was statistically significant in discriminating between the high and low constraint groups. The high constraint group (group 2) had lower score on SDF than its low counterpart (group 1). A linear combination of lack of career success, lack of control of luck and powerful others, lack of subsistence level work effort, lack of self control, lack of achievement orientation, lack of future planning and dependence on luck and significant others, lack of instrumental work ethic, congruence of plans with powerful others, and diffusion of responsibility arranged in a decreasing order of discriminating strength discriminated the two groups having its higher means in low constraint group (group 1).

The SDF for job difficulty was found to be significant with higher mean score for high job difficulty group (group 2). A linear combination of subsistence level work effort, expressive work ethic, lack of future planning and dependence on luck and significant others, lack of control of ability and powerful others, lack of control of accident and powerful others, achievement orientation, lack of preference for certainty and

autonomy, low status, lack of self control, and lack of career success; arranged in an order of decreasing strength, discriminated between high and low job difficulty groups having its higher mean for high job difficulty group (group 2).

The SDF derived for job requirement - capability mismatch was statistically significant having its higher mean for high mismatch group (group 2). A linear combination of lack of seniority, lack of diffusion of responsibility, experience variety, lack of instrumental work ethic, lack of control of accident and powerful others, lack of expressive work ethic, and self control; arranged in a decreasing order of discriminating strength, had its positive association with high mismatch group (group 2).

The SDF derived for inadequacy of role authority was statistically significant with its higher mean for high inadequacy of role authority group (group 1). A linear combination of internality in project completion and cultivating friendship, lack of future planning and dependence on luck and significant others, lack of expressive work ethic, lack of status, lack of congruence of plans with powerful others, lack of career success, control of accident and powerful others, experience variety, and lack of seniority; arranged in a decreasing order of discriminating strength, had its positive association with high inadequacy of role authority (group 1).

The dimensions of organizational (antecedents) factors and stress. The answer to the question as to which organizational

factors discriminated between the high and low magnitude of stress dimensions was also sought. Fourteen dimensions of organizational structure and processes, three dimensions of leadership style, and three dimensions of job characteristics; twenty dimensions in total, were entered in the discriminant equation (Table 4).

The SDF for lack of group cohesiveness derived from a linear combination of competence and expertise nonrecognition, lack of interpersonal help, job variety and responsibility, nonauthoritarian leadership style, lack of inadequate welfare concern, nurturant task leadership style, lack of advancement opportunities, lack of organizational risk taking, and decentralized liberal decision making; arranged in a decreasing order of discriminating strength, was statistically significant with a higher mean for high lack of group cohesiveness group (group 1).

The SDF for role conflict derived from a linear combination of lack of decentralized liberal decision making, centralization, job variety and responsibility, autonomy and pressure for performance, lack of inadequate welfare concern, lack of formalized cross-checking, competence and expertise nonrecognition, strict formalization, lack of formalized communication, lack of advancement opportunities, and lack of interpersonal help; arranged in a decreasing order of discriminating strength, was statistically significant having its higher mean for high role conflict group (group 2).

Table 4

Standardized Discriminant Function Coefficients of Organizational Factors for Stress Dimensions

Factors	Stress Dimensions									
	LGC*	RC	FI*	RA*	RO*	LSS*	CCRR	JD	JRCM	IRA*
	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>
	1	2	3	4	5	6	7	8	9	10
IH	-44	-25	-17	VD	VD	22	21	44	VD	41
SF	VD	29	VD	-19	-21	-12	51	51	-27	-19
ORT	-20	VD	-11	-15	34	14	-23	VD	-38	VD
APP	VD	37	21	-34	VD	-16	24	VD	VD	VD
C	VD	43	-17	19	VD	43	31	-15	-19	VD
DLDM	20	-45	34	-22	-52	VD	22	VD	-62	VD
NPC	12	VD	VD	-29	-24	45	18	42	33	-26
SPMLR	VD	VD	VD	14	VD	-20	VD	54	VD	VD
NF	VD	VD	16	-71	25	VD	25	VD	VD	-26
FCC	VD	-36	40	-14	19	VD	19	VD	-28	31
IWC	-29	-37	-19	24	VD	13	25	-27	-16	VD
FC	14	-29	VD	-20	-31	-23	VD	VD	VD	-49
CENR	44	30	VD	19	-28	VD	VD	VD	VD	VD
AC	VD	VD	-55	VD	VD	37	VD	-24	-38	68
NTLS	28	VD	VD	13	-32	VD	VD	55	31	21
TOLS	VD	VD	VD	VD	21	VD	VD	-38	VD	VD
NALS	33	VD	-48	VD	-30	09	10	VD	-17	VD
ADO	-23	-29	34	13	VD	-57	10	-35	VD	52
JVR	40	40	VD	-22	VD	30	-38	VD	VD	-15
JIF	VD	VD	VD	21	-19	VD	26	19	26	-24
<u>Rc</u>	.64	.46	.57	.63	.64	.68	.67	.48	.55	.51
$\chi^2$	125.28	57.67	96.54	120.56	127.33	148.41	142.88	62.39	87.90	73.64
<u>df</u>	11	11	11	16	12	13	14	11	11	11
<u>p</u> <	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
Group 1	.66	-.40	-.60	-.58	.66	.66	-.57	-.36	.50	-.41
Group 2	-.61	.53	.55	.67	-.62	-.69	.78	.63	-.60	.64

\* = Reversed, VD = Variables dropped from the equation.  
 Decimal points have been omitted from the D's.

The SDF for feeling of inequity derived from a linear combination of lack of authoritarian climate, lack of nonauthoritarian leadership style, formalized cross-checking, decentralized liberal decision making, advancement opportunities, and autonomy and pressure for high performance; arranged in a decreasing order of discriminating strength, was significant in discriminating high inequity group from its low counterpart having its positive association with low inequity group (group 2).

The SDF for role ambiguity derived from a linear combination of lack of nonformalization, lack of autonomy and pressure for performance, lack of nonparticipative climate, inadequate welfare concern, lack of decentralized liberal decision making, lack of job variety and responsibility, job identity and feedback, and lack of formalized communication; arranged in an order of decreasing discriminating strength, significantly discriminated the high role ambiguity group from its low counterpart with a higher mean for low role ambiguity group (group 2).

The SDF for role overload derived from a linear composite of lack of decentralized liberal decision making, organizational risk taking, lack of nurturant task leadership style, lack of formalized communication, lack of nonauthoritarian leadership style, lack of competence and expertise nonrecognition, nonformalization, lack of nonparticipative climate, task oriented leadership style, and lack of strict formalization significantly discriminated high overload group from its low



counterpart having its positive association with high role overload group (group 1).

The SDF derived for lack of supervisory support from a linear combination of lack of advancement opportunities, nonparticipative climate, centralization, authoritarian climate, job variety and responsibility, lack of formalized communication, interpersonal help, and lack of self protection mistrust and unjust reward; arranged in a decreasing order of discriminating strength, significantly discriminated high lack of supervisory support group from its low counterpart having its higher mean in high lack of supervisory support group (group 1).

The SDF for constraints of change and rule regulations derived from a linear combination of strict formalization, lack of job variety and responsibility, centralization, job identity and feedback, nonformalization, inadequate welfare concern, autonomy and pressure for performance, lack of organizational risk taking, decentralized liberal decision making, and interpersonal help; arranged in a decreasing order of discriminating strength, significantly discriminated high constraint group from its low counterpart having its higher mean in high constraint group (group 2).

The SDF for job difficulty derived from a linear combination of nurturant task leadership style, self protection, mistrust and unjust reward, strict formalization, interpersonal help, nonparticipative climate, lack of task oriented leadership style, lack of advancement opportunities, lack of inadequate

welfare concern, and lack of authoritarian climate; arranged in a decreasing order of discriminating strength, significantly discriminated high job difficulty group from its low counterpart having its higher mean in high job difficulty group (group 2).

The SDF for job requirement - capability mismatch derived from a linear combination of lack of decentralized liberal decision making, lack of organizational risk taking, lack of authoritarian climate, nonparticipative climate, nurturant task leadership style, lack of formalized cross-checking, lack of strict formalization, and job identity and feedback; arranged in a decreasing order of discriminating strength, significantly discriminated high mismatch group from its low counterpart having a higher mean on SDF in low mismatch group (group 1).

The SDF for inadequacy of role authority derived from a linear combination of authoritarian climate, advancement opportunities, lack of formalized communication, interpersonal help, formalized cross-checking, lack of nonparticipative climate, lack of nonformalization, lack of job identity and feedback, and nurturant task leadership style; arranged in an order of decreasing discriminating strength, significantly discriminated high inadequacy of role authority group from its low counterpart having its higher mean in the low inadequacy of role authority group (group 1).

Personal antecedents and strain. The question of the personal factors discriminating between high and low strain groups would be addressed to in this subsection. This problem

was considered in order to have a diagnostic insight about certain personal characteristics, presence of which may trigger the strain symptoms, or conversely may create resistance to strain. The discriminant analysis was performed to achieve this objective. As in the case of the dimensions of stress, strain dimensions were also dichotomized through median split (Table 5).

The SDF for frustration derived from a linear combination of lack of future planning and dependence on luck and significant others, lack of expressive work ethic, lack of diffusion of responsibility, and control of luck and powerful others; arranged in an order of decreasing discriminating strength, significantly discriminated high frustration group from its low counterpart having its higher mean in high frustration group (group 2).

The SDF for lack of leisure time derived from a linear combination of lack of career success, internality in project completion and cultivating friendship, lack of future planning and dependence on luck and significant others, control of ability and powerful others, lack of control of accident and powerful others, lack of self control, and of luck and powerful others; arranged in an order of decreasing discriminating strength, significantly discriminated high lack of leisure time group from its low counterpart having its higher mean score in high lack of leisure time group (group 2).

Table 5

Standardized Discriminant Function Coefficients of Personal Factors  
for Strain Dimensions

Factors	Strain Dimensions							
	F	LLT	FU*	PSS	WA	BOI*	UWR*	LH*
	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>
	1	2	3	4	5	6	7	8
CS	VD	-53	VD	VD	VD	-14	21	-12
VE	-17	-22	-30	-12	-17	-18	37	-44
SY	VD	17	-16	-35	VD	VD	-31	VD
ST*	19	VD	VD	-14	46	VD	16	08
LFDLOP	49	36	VD	41	-30	53	-38	51
SC	VD	-21	VD	-23	VD	VD	VD	-15
CACP	11	-20	-19	VD	66	VD	-29	VD
CLP	20	30	-21	VD	-18	VD	VD	-11
CABP	VD	31	37	VD	-50	VD	VD	25
CPPP	VD	16	VD	VD	28	-19	-15	VD
DR	-23	VD	-17	-21	VD	-28	VD	VD
IPCCF	VD	40	-65	20	-15	44	VD	38
AO	-16	VD	VD	VD	VD	-19	24	-34
SLWE	VD	VD	21	15	VD	-25	22	-16
PCA	19	VD	VD	23	VD	-20	-21	27
EWE	-33	VD	-14	-62	VD	-59	VD	-26
IWE	VD	VD	14	VD	VD	47	-18	12
<u>Rc</u>	.63	.59	.48	.53	.44	.49	.58	.66
$\chi^2$	120.59	104.58	64.97	78.85	51.27	67.11	97.94	139.90
<u>df</u>	9	10	10	10	8	11	11	13
<u>p</u> <	.01	.01	.01	.01	.01	.01	.01	.01
Group 1	-.64	-.61	.49	-.59	-.35	.34	-.55	.70
Group 2	.61	.57	-.48	.49	.55	-.71	.60	-.63

\* = Reversed; VD = Variable dropped from the equation.  
Decimal points have been omitted from the D's.

The SDF for feeling of uneasiness derived from a linear combination of lack of internality in project completion and cultivating friendship, control of ability and powerful others, lack of experience variety, subsistence level work effort, and lack of luck and powerful others; arranged in an order of decreasing discriminating strength, significantly discriminated high feeling of uneasiness group from its low counterpart having its higher mean in high uneasiness group (group 1).

The SDF for physical and symptomatic strain derived from a linear composite of lack of expressive work ethic, lack of future planning and dependence on luck and significant others, lack of seniority, preference for certainty and autonomy, lack of self control, lack of diffusion of responsibility, and internality in project completion and cultivating friendship; arranged in a decreasing order of discriminating strength, significantly discriminated high symptomatic strain group from its low counterpart having its higher mean for high strain group (group 2).

The SDF for work aversion derived from a linear combination of control of accident and powerful others, lack of control of ability and powerful others, lack of status, (lack of) lack of future planning and dependence on luck and significant others, and congruence of plans with powerful others; arranged in an order of decreasing discriminating strength, significantly discriminated high work aversion group from its low counterpart

having its higher mean in high work aversion group (group 2).

The SDF for bearing others incompetence derived from a linear combination of lack of expressive work ethic, lack of future planning and dependence on luck and significant others, instrumental work ethic, internality in project completion and cultivating friendship, lack of diffusion of responsibility, lack of subsistence level work effort, and lack of preference for certainty and autonomy; arranged in a decreasing order of discriminating strength, significantly discriminated high bearing of others incompetence group from its low counterpart having its higher mean in the group high on bearing of others incompetence (group 1).

The SDF for unjust work and reward derived from a linear composite of (lack of) lack of future planning and dependence on luck and significant others, experience variety, lack of seniority, lack of control of accident and powerful people, achievement orientation, subsistence level work effort, lack of preference for certainty and autonomy, and career success; arranged in a decreasing order of discriminating strength, significantly discriminated high unjust work and reward group from its low counterpart having its higher mean in low unjust work and reward group (group 2).

The SDF for latent hostility derived from a linear combination of lack of future planning and dependence on luck and significant others, lack of experience variety, internality in project completion and cultivating friendship,

lack of achievement orientation, preference for certainty and autonomy, lack of expressive work ethic, and control of ability and powerful others; arranged in an order of decreasing discriminating strength, significantly discriminated high latent hostility group from its low counterpart having its higher mean in high latent hostility group (group 1).

The dimensions of organizational factors and strain.

the question 'which organizational factors are conducive to strain and which organizational factors are not and how these factors discriminate between high and low strain groups' in mind, SDF were derived from organizational factors to discriminate between high and low scores on the dimensions of strain (Table

The SDF for frustration derived from a linear combination of lack of decentralized liberal decision making, lack of advancement opportunities, nonauthoritarian leadership style, inadequate welfare concern, centralization, strict formalization, job variety and responsibility, lack of formalized cross- and organizational risk taking; arranged in an order of decreasing discriminating strength, significantly discriminated high frustration group from its low counterpart having its higher mean for high frustration group (group 2).

The SDF for lack of leisure time derived from a linear combination of lack of strict formalization, lack of formalized communication, lack of nurturant task leadership style, lack of nonauthoritarian leadership style, lack of decentralized liberal decision making, and autonomy and pressure for

Table 6

Standardized Discriminant Function Coefficients of Organizational Factors for Strain Dimensions

Factors	Strain Dimensions							
	F	LLT	FU*	PSS	WA	BOI*	UWR*	LH*
	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>
	1	2	3	4	5	6	7	8
IH	-.14	VD	VD	VD	-.16	VD	-.33	-.43
SF	.23	-.30	.39	-.18	VD	-.45	-.25	VD
ORT	.20	.18	VD	-.45	VD	VD	VD	VD
APP	-.12	.22	VD	-.11	VD	VD	.23	-.30
C	.29	VD	.46	-.43	.16	VD	VD	-.15
DLDM	-.60	-.24	.36	.27	VD	-.47	-.64	-.73
NPC	VD	-.14	VD	VD	VD	VD	VD	-.46
SPMLR	VD	VD	.36	VD	-.22	-.29	VD	-.14
NF	VD	.15	VD	VD	-.47	-.27	.21	VD
FCC	-.21	VD	-.27	.28	-.31	-.16	-.17	-.48
IWC	.30	-.13	VD	VD	VD	.22	-.30	VD
FC	-.21	-.30	VD	VD	VD	.19	-.15	-.18
CENR	VD	VD	VD	VD	-.80	.12	VD	VD
AC	VD	VD	VD	-.19	VD	VD	-.30	VD
NTLS	VD	-.25	-.18	.41	-.32	-.37	VD	VD
TOLS	.15	.19	.29	-.16	VD	.29	.13	.20
NALS	.31	-.25	-.53	-.26	VD	.24	-.16	.31
ADO	-.44	-.15	.48	.33	-.45	-.22	VD	-.61
JVR	.22	VD	VD	VD	-.32	VD	.17	.38
JIF	VD	VD	VD	VD	.55	-.22	VD	VD
<u>Rc</u>	.63	.70	.44	.56	.48	.54	.54	.52
$\chi^2$	124.83	164.63	52.15	91.26	64.35	84.49	81.51	77.32
<u>df</u>	13	13	9	11	10	13	12	12
<u>p</u> <	.01	.01	.01	.01	.01	.01	.01	.01
Group 1	-.65	-.72	-.44	.60	.38	.38	-.51	.55
Group 2	.62	.68	.43	-.52	-.60	-.78	.56	-.49

\* = Reversed; VD = Variable dropped from the equation.  
 Decimal points have been omitted from the D's.



performance; arranged in a decreasing order of discriminating strength, significantly discriminated the group high on lack of leisure time group from its low counterpart. having its higher mean in high lack of leisure time group (group 2).

The SDF for feeling of uneasiness derived from a linear combination of lack of nonauthoritarian leadership style, advancement opportunities, centralization, strict formalization, decentralized liberal decision making, self protection mistrust and unjust reward, task oriented leadership style, and lack of formalized cross-checking; arranged in a decreasing order of discriminating strength, significantly discriminated high feeling of uneasiness group from its low counterpart having its higher mean in low feeling of uneasiness group (group 2).

The SDF for physical symptomatic strain derived from a linear composite of lack of organizational risk taking, lack of centralization, nurturant task leadership style, advancement opportunities, formalized cross-checking, decentralized liberal decision making, and lack of nonauthoritarian leadership style; arranged in an order of decreasing discriminating strength, significantly discriminated high physical symptomatic strain group from its low counterpart having its higher mean in low physical symptomatic strain group (group 1).

The SDF for work aversion derived from a linear combination of lack of competence and expertise nonrecognition, job identity and feedback, lack of nonformalization, lack of advancement opportunities, lack of job variety and responsibility,

lack of nurturant task leadership style, lack of formalized cross-checking, and lack of self protection and mistrust; arranged in a decreasing order of discriminating strength, discriminated significantly high work aversion group from its low counterpart having its higher mean in low work aversion group (group 1).

The SDF for bearing others' incompetence derived from a linear combination of lack of decentralized liberal decision making, lack of strict formalization, lack of nurturant task leadership style, lack of self protection and mistrust, task oriented leadership style, lack of nonformalization, nonauthoritarian leadership style, inadequate welfare concern, lack of advancement opportunities, and lack of job identity and feedback; arranged in a decreasing order of discriminating strength, significantly discriminated the group high on bearing of others incompetence from its low counterpart having its higher mean in high bearing of others' incompetence group (group 1).

The SDF for unjust work and reward derived from a linear composite of lack of decentralized liberal decision making, lack of interpersonal help, lack of authoritarian climate, lack of inadequate welfare concern, lack of strict formalization, autonomy and pressure for performance, and nonformalization; arranged in a decreasing order of discriminating strength, significantly discriminated high unjust work and reward group from its low counterpart having

its higher mean in the group low on unjust work and reward (group 2).

The SDF for latent hostility derived from a linear composite of lack of decentralized liberal decision making, lack of advancement opportunities, lack of formalized cross-checking, lack of nonparticipative climate, lack of interpersonal help, job variety and responsibility, nonauthoritarian leadership style, lack of autonomy and pressure for performance, and task oriented leadership style; arranged in a decreasing order of discriminating strength, significantly discriminated high latent hostility group from its low counterpart having its higher mean in high latent hostility group (group 1).

Relationship of the dimensions of stress with coping strategies. The relationships of stress and coping were explored to understand as to how the dimensions of stress were related to the dimension of coping. The zero order product-moment correlations between the dimensions of stress and the dimensions of coping strategies are given in Appendix C. Due to multidimensional nature of stress and coping constructs, canonical correlation analysis was performed (Table 7).

The first canonical correlation explained 36 per cent of shared variance between dimensions of stress and that of coping. The results showed that a linear combination of coping strategies containing lack of problem solving, nondirectional work approach, and constructive deferred

Table 7

Canonical Correlations of Dimensions of Stress with Dimensions of Coping Strategies

Factors	<u>CC</u> 1	<u>CC</u> 2	<u>CC</u> 3	<u>CC</u> 4
<u>Left hand Set</u>				
LGC*	45	-05	-06	18
RC	-05	19	37	-15
FI*	-59	-07	-03	-17
RA*	-54	01	03	-26
RO*	18	-21	-04	-08
LSS*	-14	-12	48	08
CCRR	00	12	-14	-32
JD	-11	-20	-17	28
JRCM	23	-29	30	-27
IRA*	-20	-01	-23	-19
<u>Right hand Set</u>				
APS	-49	63	-05	-61
NDWA	71	67	69	-01
CDPS	-48	-21	70	00
IS	12	33	21	80
<u>RC</u>	.60	.46	.31	.21
$\chi^2$	204.45	94.58	35.63	11.29
<u>df</u>	40	27	16	7
<u>p</u>	< .01	< .01	< .01	> .05

\* = Reversed;    Decimal points have been omitted from CC's.

problem solving; was related with a linear combination of stress dimensions consisting of lack of group cohesiveness, lack of feeling of inequity, role ambiguity, job requirement-capability mismatch, and inadequacy of role authority.

The second canonical correlation explained 21 per cent of shared variance between dimensions of stress and that of coping. A linear combination of coping strategies consisting of active problem solving, nondirectional work approach, lack of constructive deferred problem solving, and information seeking; was related to a combination of dimensions of stress containing role overload, job requirement - capability mismatch, and lack of job difficulty.

The third canonical correlation explained 10 per cent of shared variance between a linear combination of stress dimensions and that of coping strategies. A linear composite of coping strategies consisting of nondirectional work approach, constructive deferred problem solving, and information seeking; was related to a stress situation consisting of role conflict, supervisory support, job requirement - capability mismatch, and inadequacy of role authority.

The four canonical correlation was insignificant.

A somewhat related research question of interest was what kind of coping strategies discriminate between low and high magnitude of dimensions of stress? This question was sought to be answered with the help of the discriminant analysis.

Coping strategies and the dimensions of stress. This question was addressed to in order to understand whether high and low stress groups differed in use of specific coping strategies. Discriminant analyses were performed using coping strategies as independent and dimensions of stress as the dependent variables (Table 8).

The SDF for lack of group cohesiveness derived from a linear combination of dimensions of coping strategies was statistically significant having its higher mean in the group high on lack of group cohesiveness (group 1). The SDF consisted of two factors, namely, nondirectional work approach and lack of constructive deferred problem solving.

The SDF derived to discriminate between high and low role conflict was significant with a higher mean in low role conflict group. SDF was formed of a linear combination of lack of active problem solving, lack of nondirectional work approach, and information seeking.

The high and low feeling of inequity groups were significantly discriminated by the SDF having its higher mean in high inequity group (group 1). Nondirectional work approach and information seeking had positive while constructive deferred problem solving had negative loading on SDF.

The SDF formed by only nondirectional work approach discriminated between high and low role ambiguity. High role ambiguity group (group 1) had higher mean score on SDF than its low counterpart.

Table 8

Standardized Discriminant Function Coefficients of Coping Strategies for Stress Dimensions

Factors	Stress Dimensions									
	LGC*	RC	FI*	RA	RO*	LSS*	CCRR	JD	JRCM	IRA*
	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>
	1	2	3	4	5	6	7	8	9	10
APS	VD	-1.03	VD	VD	-1.22	VD	VD	VD	VD	VD
NDWA	.75	-1.64	.81	1.00	-1.17	VD	VD	.69	.30	1.41
CDPS	-.39	VD	-.62	VD	-.23	.80	VD	-.45	VD	VD
IS	VD	.44	.48	VD	-.38	.37	VD	VD	.63	.90
<u>Rc</u>	.38	.33	.43	.39	.30	.42	-	.16	.38	.26
$\chi^2$	40.26	29.62	52.77	41.60	23.55	50.21	-	6.52	39.06	17.67
<u>df</u>	2	3	3	1	4	2	-	2	3	2
<u>p</u> <	.01	.01	.01	.01	.01	.01	-	.04	.01	.01
Group 1	.40	.29	.45	.38	-.31	-.41	-	.42	.34	.20
Group 2	-.37	-.38	-.41	-.44	.29	.43	-	-.21	-.42	-.32

\* = Reversed; VD = Variable dropped from the equation.

Decimal points have been omitted from the D's.

The SDF formed by a combination of lack of all the four coping strategies was high in low role overload group

The SDF for lack of supervisory support derived from a linear combination of constructive deferred problem solving and information seeking significantly discriminated between high and low lack of supervisory support groups having higher mean for the group low on lack of supervisory support (group 2).

The high and low job difficulty groups were significantly discriminated by the SDF derived from a linear combination of nondirectional work approach and lack of constructive deferred problem solving. The high job difficulty group had lower mean on SDF.

The high and low job requirement - capability mismatch groups were significantly discriminated by the SDF having positive loadings of nondirectional work approach and information seeking. High job requirement - capability mismatch group (group 2) had lower mean on SDF.

The high and low inadequacy of role authority groups were discriminated by the SDF formed by linear combination of nondirectional work approach and information seeking. The high inadequacy of role authority group had higher mean on SDF.

#### Relationship of the dimensions of stress and strain.

Table 9 shows the summary of the canonical correlation analysis between dimensions of stress and that of strain. Since the right hand set, i.e., strain dimensions were eight in number,



Table 9

Canonical Correlations of Dimensions of Stress with  
Dimensions of Strain

Factors	<u>CC</u> 1	<u>CC</u> 2	<u>CC</u> 3	<u>CC</u> 4	<u>CC</u> 5	<u>CC</u> 6	<u>CC</u> 7	<u>CC</u> 8
<u>Left hand Set</u>								
LGC*	12	-14	-13	-22	01	08	-13	32
RC	04	21	49	-55	-27	-38	03	24
FI*	-12	-15	09	-70	31	01	00	-37
RA*	29	-04	-42	-08	-29	-30	-43	-02
RO*	-98	-05	-15	-23	-31	-29	03	25
LSS*	03	-03	-19	22	06	18	-10	05
CCRR	-22	48	-23	-27	-16	45	04	05
JD	-02	-07	-42	-06	32	-18	37	35
JRCM	00	30	17	10	37	-04	-50	22
IRA*	-11	-23	59	-10	-04	23	09	47
<u>Right hand Set</u>								
F	07	81	-06	-42	-34	13	43	-01
LLT	80	-22	34	-04	50	49	14	-09
FU*	08	-04	-33	-32	-17	22	-32	-45
PSS	-29	39	12	-14	46	-15	-64	-02
WA	-18	-20	83	-13	-12	35	-04	-16
BOI*	20	15	-23	-47	-12	13	-34	74
UWR*	-28	21	-14	27	23	70	-03	04
LH*	-32	18	09	-06	57	-19	41	-46
<u>Rc</u>	.81	.72	.50	.47	.39	.24	.15	.12
$\chi^2$	628.17	366.56	191.56	123.61	62.97	23.16	9.03	3.46
<u>df</u>	80	63	48	35	24	15	8	3
<u>p</u>	< .01	< .01	< .01	< .01	< .01	> .05	> .05	> .05

\* = Reversed; Decimal points have been omitted from CC's.

eight canonical correlations emerged in total. Out of eight canonical correlations, only five were significant ( $p < .05$ ). Thus only five canonical correlations would be reported.

The first canonical correlation explained 65.6 per cent of shared variance between linear combinations of stress dimensions and that of strain. A stress situation consisting of role overload, lack of role ambiguity, and lack of constraints of change and rule regulations; was related with a linear composite of strain dimensions consisting of lack of leisure time, lack of physical symptomatic strain, lack of bearing of others incompetence, unjust work and reward, and latent hostility.

The second canonical correlation explained 51.8 per cent of shared variance between linear combinations of stress dimensions and that of strain. A stress situation containing role conflict, job requirement - capability mismatch, and inadequacy of role authority; was related with a combination of strain dimensions containing frustration, availability of leisure time, physical symptomatic strain, lack of work aversion, and lack of unjust work and reward.

The third canonical correlation explained 25 per cent of shared variance between linear combinations of stress dimensions and that of strain. A linear combination of stress dimensions saliently formed by role conflict, role ambiguity, lack of constraints of change and rule regulations, lack of job difficulty, and adequacy of role authority; was related to a

strain situation containing the dimensions of work aversion, lack of leisure time, feeling of uneasiness, and bearing others' incompetence.

The fourth canonical correlation explained 22.1 per cent of shared variance between a linear combination of stress dimensions and that of strain. A stress condition formed by feeling of inequity, lack of role conflict, lack of constraints of change and rule regulations, role overload, lack of group cohesiveness, and supervisory support; was related to a combination of strain dimensions containing bearing of others' incompetence, lack of frustration, feeling of uneasiness, and lack of unjust work and reward.

The fifth canonical correlation explained 15.2 per cent of shared variance between a linear combination of stress dimensions and that of strain. A linear combination of stress dimensions containing job requirement - capability mismatch, job difficulty, role overload, role ambiguity, lack of inequity, and lack of role conflict; was related to a linear combination of strain dimensions containing lack of latent hostility, lack of leisure time, physical symptomatic strain, lack of frustration, and lack of unjust work and reward.

The sixth canonical correlation explained 5.8 per cent of shared variance between the linear combinations of the dimensions of stress and strain. A linear combination of the stress dimensions saliently formed by constraints of change and rule regulations, lack of role conflict, role ambiguity,

role overload, and lack of inadequacy of role authority was related to a linear combination of the strain dimensions saliently formed by lack of leisure time, lack of feeling of uneasiness, work aversion, and lack of unjust work and reward.

Relationship of the dimensions of coping and strain. After addressing the questions as to how the dimensions of stress and that of coping are related, and how the dimensions of stress and that of strain are related, a further related question as to what are the relationships between the dimensions of coping and that of strain was addressed to. Canonical correlation analysis was used for the purpose. Summary of the results are presented in Table 10.

The first canonical correlation explained 36 per cent of shared variance between a linear combination of dimensions of coping strategies and that of strain. A linear combination of coping strategies consisting of lack of active problem solving, nondirectional work approach, and lack of information seeking; was related to another linear combination of strain dimensions consisting of availability of leisure time, physical symptomatic strain, unjust work and reward, and latent hostility.

The second canonical correlation explained 19 per cent of shared variance between a linear combination of dimensions of coping and that of strain. A combination of coping strategies containing active problem solving, nondirectional work approach, and lack of information seeking; was related to a combination of

Table 10

Canonical Correlations of Dimensions of Coping Strategies  
with Dimensions of Strain

Factors	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>
	1	2	3	4
<u>Left hand Set</u>				
APS	-.29	1.57	.15	-.22
NDWA	.40	1.20	-.81	.34
CDPS	-.11	-.06	.04	.81
IS	-.33	-.27	-1.06	.05
<u>Right hand Set</u>				
F	.16	.48	-.53	-.10
LLT	-.61	.02	-.33	.46
FU*	-.09	.40	.28	-.06
PSS	.61	.05	.60	.34
WA	-.05	.40	.10	.45
BOI*	-.14	-.15	-.05	.51
UWR*	.28	-.62	-.24	.38
LH*	-.35	.17	.31	-.21
<u>Rc</u>	.60	.44	.35	.17
$\chi^2$	201.57	91.59	39.43	7.08
<u>df</u>	32	21	12	5
<u>p</u>	< .01	< .01	< .01	> .05

\* = Reversed.

strain situation consisting of frustration, feeling of easiness, work aversion, and unjust work and reward.

The third canonical correlation explained 12 per cent of shared variance between a linear combination of dimensions of coping strategies and that of strain. A combination of dimensions of coping strategies containing lack of nondirectional work approach and lack of information seeking ; was related to a linear combination of the dimensions of strain containing physical symptomatic strain, lack of frustration, availability of leisure time, feeling of easiness, unjust work and reward, and lack of latent hostility.

The fourth canonical correlation was insignificant.

Coping strategies and the dimensions of strain. How high and low strain groups differed in use of the specific coping strategies was also a question of interest that was sought to be answered. The answer to question would help to diagnose the efficacy of coping strategies. This question was also sought to be tackled through discriminant analysis (Table 11).

The high frustration group was significantly discriminated from low frustration group by the SDF derived from a linear combination of active problem solving, nondirectional work approach, and lack of constructive deferred problem solving. The high frustration group had higher mean score on SDF.

The SDF for lack of leisure time derived from a linear combination of lack of active problem solving, lack of nondirectional work approach, and lack of information seeking

Table 11

Standardized Discriminant Function Coefficients of Dimensions of Coping Strategies for Strain Dimensions

Factors	Dimensions of Strain							
	F	LIT	FU*	PSS	WA	BOI*	UWR*	LH*
	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>
	1	2	3	4	5	6	7	8
APS	.76	-1.24	1.17	VD	-1.15	VD	-1.25	.58
NDWA	1.31	-1.16	VD	.82	VD	1.00	.93	1.42
CDPS	-.49	VD	VD	-.30	VD	VD	VD	-.27
IS	VD	-.53	-.31	VD	1.25	VD	-.41	.38
<u>Rc</u>	.28	.19	.29	.38	.13	.25	.29	.30
$\chi^2$	19.53	8.59	22.22	37.92	4.74	16.10	22.53	22.53
<u>df</u>	4	3	2	2	2	1	3	4
<u>p</u> $\leq$	.01	.04	.01	.01	.15	.01	.01	.01
Group 1	-.28	.19	-.30	-.40	.11	.18	-.28	.31
Group 2	.27	-.18	.29	.35	-.17	-.38	.31	-.28

\* = Reversed; VD = Variable dropped from the equation.

discriminated high lack of leisure time group significantly from its low counterpart having its higher mean in low lack of leisure time group (group 1).

The group, with high feeling of uneasiness was discriminated from its low counterpart by the SDF derived from a linear combination of active problem solving and lack of information seeking having its higher mean in low feeling of uneasiness group (group 2).

The high physical symptomatic strain group was significantly discriminated from its low counterpart by the SDF derived from a linear combination of nondirectional work approach and lack of constructive deferred problem solving having its higher mean in high physical symptomatic strain group (group 2).

The group with high experience of bearing of others' incompetence was discriminated from its low counterpart by the SDF having only nondirectional work approach as coping strategy with higher mean for the group high on bearing others' incompetence (group 1).

The group with high experience of unjust work and reward was discriminated significantly from its low counterpart by the SDF derived from linear combination of lack of active problem solving, nondirectional work approach, and lack of information seeking having higher mean score for the low unjust work and reward group (group 2).

The group with high feeling of latent hostility was discriminated from its low counterpart by the SDF derived from



a linear combination of active problem solving, nondirectional work approach, lack of constructive deferred problem solving, and information seeking having higher mean in high latent hostility group (group 1).

Relationship of the dimensions of stress, coping strategies with the dimensions of strain. Table 12 shows the summary of canonical correlation analysis performed with the dimensions of stress and dimensions of coping strategies relating to the dimensions of strain. Left hand set, i.e., independent set consisted of ten dimensions of stress, four dimensions of coping, fourteen factors in total, while right set i.e., dependent set consisted of eight dimensions of strain. So eight canonical correlations were possible. Out of the eight canonical correlations only the first six were significant.

The first canonical correlation explained 67 per cent of shared variance between linear combinations of the dimensions of stress and dimensions of coping strategies, and the dimensions of strain. A linear combination of lack of role ambiguity and lack of constraints of change and rule regulations; was significantly related to a linear combination of strain factors consisting of lack of leisure time, lack of physical symptomatic strain, latent hostility, and unjust work and reward.

The second canonical correlation explained 58 per cent of shared variance between linear combinations of the dimensions

Table 12

Canonical Correlations of Stress and Coping Strategies with Strain

Factors	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>	<u>CC</u>
	1	2	3	4	5	6	7	8
<u>Left hand Set</u>								
LGC*	12	-07	-03	09	-12	00	23	-14
RC	02	16	57	14	-16	-12	-14	-56
FI*	-10	-15	32	36	08	14	22	10
RA*	29	07	-29	08	-48	07	07	-30
RO*	-94	-09	09	19	-34	-15	-21	-29
LSS*	05	00	-27	-03	00	07	05	17
CCRR	-22	47	-03	34	-03	-36	26	21
JD	01	-08	-21	28	11	19	-16	-11
JRCM	03	25	11	04	33	25	06	-10
IRA*	-10	-21	33	-28	17	-29	15	-15
APS	09	-15	68	09	-37	33	-35	56
NDWA	17	22	24	-25	-23	-22	-03	34
CDPS	-08	-05	14	-11	18	-23	26	-14
IS	16	-03	-32	13	33	-62	-21	00
<u>Right hand Set</u>								
F	10	75	26	47	-09	-51	-25	13
LLT	80	-32	14	-01	65	-08	23	36
FU*	08	-02	05	23	-43	11	33	38
PSS	-33	44	26	05	13	64	43	-17
WA	-18	-23	65	-37	10	-26	20	26
BOI*	19	14	-02	35	-08	-26	49	-60
UWR*	-28	25	-38	-05	42	-27	42	36
LH*	-31	-04	52	68	41	33	-37	33
<u>Rc</u>	.82	.76	.56	.52	.43	.37	.27	.19
<u><math>\chi^2</math></u>	743.11	476.72	274.26	185.82	110.16	61.70	26.16	8.58
<u>df</u>	112	91	72	55	40	27	16	7
<u>p</u>	<.01	<.01	<.01	<.01	<.01	<.01	>.05	>.05

\* = Reversed; Decimal points have been omitted from CC's.

of stress and coping strategies, and the dimensions of strain. A strain situation containing frustration, physical symptomatic strain, availability of leisure time, lack of unjust work and reward, and lack of work aversion was related to a linear combination of stress and coping dimensions containing constraints of change and rule regulations, job requirement - capability mismatch, inadequacy of role authority, and nondirectional work approach.

The third canonical correlation explained 31.4 per cent of shared variance of the dimensions of stress and coping, and the dimensions of strain. A strain situation formed of work aversion, lack of latent hostility, unjust work and reward, physical symptomatic strain, and frustration; was related to dimensions of stress and coping containing role conflict, feeling of equity, adequacy of role authority, role ambiguity, lack of supervisory support, lack of job difficulty, active problem solving, nondirectional work approach, and lack of information seeking.

The fourth canonical correlation explained 27 per cent of shared variance between linear combinations of the dimensions of stress and coping, and the dimensions of strain. A strain situation consisting of latent hostility, frustration, lack of work aversion, nonbearing of others' incompetence, and feeling of easiness; was related to a linear combination of dimensions of stress and coping containing lack of feeling of inequity, constraints of change and rule regulations, job

difficulty, inadequacy of role authority, and lack of nondirectional work approach.

The fifth canonical correlation explained 18.5 per cent of shared variance between the strain dimensions and the dimensions of stress and coping strategies. A strain situation consisting of lack of leisure time, feeling of uneasiness, lack of unjust work and reward, and lack of latent hostility; was related to a combination of coping and stress situation consisting of role ambiguity, role overload, job requirement - capability mismatch, lack of active problem solving, lack of nondirectional work approach, and information seeking.

The sixth canonical correlation explained 13.7 per cent of shared variance between a linear combination of the dimensions of strain, and that of stress and coping. A strain situation consisting of physical symptomatic strain, lack of frustration, lack of latent hostility, bearing of others' incompetence, unjust work and reward, and lack of work aversion; was related to a linear combination of the dimensions of stress and coping predominantly formed by inadequacy of role authority, job requirement - capability mismatch, lack of constraints of change and rule regulations, active problem solving, lack of nondirectional work approach, and lack of information seeking.

The dimensions of stress as a function of ownership and hierarchical position. Stress dimension scores were subjected

to 2 x 2 analysis of variance (ANOVA) with two levels of ownership (public and private) and two levels of hierarchical position (high and low). Summary of ANOVA, and means and standard deviations for stress dimensions across ownership by hierarchical position are presented in Table 13 and Table 14 respectively.

For lack of group cohesiveness only the main effect of ownership was significant showing that the public organizations were high on lack of group cohesiveness than the private organizations.

For role conflict only the main effect of hierarchical position was significant showing that the executives with low position in hierarchy experienced higher role conflict than their high position counterpart.

In the case of feeling of inequity only the main effect of hierarchical position was significant showing that the executives in lower hierarchical position experienced more inequity.

In the case of role ambiguity only the main effect of hierarchical position was significant showing that the executives in low hierarchical position experienced more role ambiguity than their high position counterparts.

For role overload both the main effects were significant showing that the executives of privately owned organizations experienced more role overload than their counterparts of public organizations. The main effect of hierarchical position showed that the executives of low hierarchical position

Table 13

Summary of Analysis of Variance of Stress Dimensions as Function of Ownership and Hierarchical Position

Source	LGC*		RC		FI*		RA*	
	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>
Ownership (A)	87.39	13.62	3.84	0.33	0.52	0.08	3.98	0.78
Hierarchical Position (B)	15.33	2.39	145.92	12.45	187.73	28.73	52.90	10.40
AXB	0.27	0.04	27.12	2.31	7.82	1.20	0.64	0.13
Error	6.42		11.72		6.53		5.09	

Source	RO*		LSS*		CCRR		JD	
	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>
Ownership (A)	760.62	54.11	8.71	1.72	127.03	50.20	2.08	1.16
Hierarchical Position (B)	117.66	8.37	57.44	11.33	2.72	1.07	0.03	0.02
AXB	35.44	2.52	15.57	3.07	11.46	4.53	0.03	0.02
Error	14.06		5.07		2.53		1.80	

Source	JRCM		IRA*	
	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>
Ownership (A)	21.87	6.13	25.62	10.12
Hierarchical Position (B)	3.04	0.85	30.23	11.94
AXB	2.73	0.76	4.77	1.88
Error	3.57		2.53	

$\underline{F}(1,246) = 3.88, p = .05$  ;  $\underline{F}(1,246) = 6.74, p = .01$ . \* = Reversed.

Table 14

Means and Standard Deviations of Stress Dimensions As Function of Ownership and Hierarchical Position

Factors	Ownership							
	Public				Private			
	Hierarchical Position				Hierarchical Position			
	Low		High		Low		High	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
LGC*	15.56	2.13	16.03	1.58	16.80	2.73	17.42	2.72
RC	11.47	2.56	9.03	1.33	11.01	3.59	10.04	4.10
FI*	7.11	2.37	9.43	2.36	7.61	2.38	9.14	2.90
RA*	11.82	2.22	12.73	1.69	11.99	2.25	13.13	2.42
RO*	- 9.22	2.01	- 8.53	1.59	-13.94	4.19	-11.58	4.40
LSS*	8.64	2.25	10.27	2.11	9.62	2.14	10.13	2.10
CCRR	5.89	1.52	6.13	1.06	4.78	1.62	4.07	1.72
JD	6.33	0.99	6.33	0.98	6.11	1.29	6.16	1.66
JRCM	- 8.96	1.56	- 9.43	1.20	- 9.85	1.87	- 9.86	2.25
IRA*	4.13	1.57	4.60	1.23	4.54	1.64	5.62	1.63
n	45		30		104		71	

\* = Reversed.

experienced more role overload than their high position counterparts.

In the case of lack of supervisory support only the main effect of hierarchical position was significant showing that the executives low in hierarchy perceived more lack of supervisory support than their high position counterparts.

For constraints of change and rule regulations, the main effect of ownership and the interaction effect of ownership and hierarchical position were significant. The pattern of main effect suggested that the executives in public owned organizations experienced more constraints of change and rule regulations than the executives in privately owned organizations. The interaction effect suggested that the executives high in hierarchical position experienced more constraints than their low position counterparts in publicly owned organizations, while the executives in low hierarchical position experienced more constraints in privately owned organizations.

For job difficulty all the effects were insignificant.

For job requirement - capability mismatch the main effect of ownership was significant showing that the executives in public owned organizations perceived more job requirement - capability mismatch than the executives in privately owned organizations.

For inadequacy of role authority both the main effects were significant showing that the executives in public organizations felt more inadequacy of role authority than their



counterparts in privately owned organizations. The executives in low hierarchical position experienced more inadequacy of role authority than their high position counterparts.

The dimensions of coping strategies as function of ownership and hierarchical position. Scores on dimensions of coping strategies were also subjected to 2 x 2 (ownership X hierarchical position) ANOVA. Summaries of ANOVA, and means and standard deviations for ownership by hierarchical position are given in Table 15.

For all the dimensions of coping strategies both the main effects were but no interaction effect was significant. The pattern of means suggested that the executives in high hierarchical position and the executives from private organizations used more active problem solving, less nondirectional work approach, more constructive deferred problem solving, and more information seeking than their respective counterparts.

The dimensions of strain as function of ownership and hierarchical position. As in the case of stress and coping, the scores on strain dimensions were also subjected to 2 x 2 (ownership X hierarchical position) ANOVA. Summaries of ANOVA, and means and standard deviations for ownership by hierarchical position are given in Table 16 and Table 17 respectively.

For frustration, feeling of uneasiness, and physical symptomatic strain only the main effect of hierarchical position

Table 15

Means, Standard Deviations and Summary of Analysis of Variance of Dimensions of Coping Strategies as Function of Ownership and Hierarchical Position

Factors	Ownership							
	Public				Private			
	Hierarchical Position				Hierarchical Position			
	Low		High		Low		High	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
APS	21.64	4.28	24.70	7.00	24.64	6.54	28.14	4.09
NDWA	-17.71	5.70	-21.47	4.56	-19.51	5.41	-24.62	3.62
CDPS	7.93	1.99	8.97	1.70	8.75	1.87	9.55	1.60
IS	2.84	1.07	3.50	0.89	3.54	1.22	4.03	0.84
n	45		30		104		71	
Source	APS		NDWA		CDPS		IS	
	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>
Owner-ship(A)	521.83	17.93	309.35	12.57	24.71	7.50	18.85	16.61
Hierar-chical Position (B)	543.27	18.66	991.73	40.30	42.38	12.86	16.55	14.58
AXB	2.56	0.09	23.15	0.94	0.69	0.21	0.35	0.31
Error	29.11		24.61		3.30		1.14	

$\underline{F} (1,246) = 3.88, p = .05; \quad \underline{F} (1,246) = 6.74, p = .01.$

Table 16

Summary of Analysis of Variance of Strain Dimensions as Function of Ownership and Hierarchical Position

Source	F		LLT		FU*		PSS	
	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>
Ownership (A)	36.47	1.47	1635.36	81.11	2.49	0.28	7.54	0.42
Hierarchical Position (B)	592.50	23.95	91.89	4.56	116.23	12.82	462.37	25.60
AXB	23.47	0.95	9.21	0.46	0.07	0.01	46.52	2.58
Error	24.74		20.16		9.06		18.06	

Source	WA		BOI*		UWR*		LH*	
	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>
Ownership (A)	0.04	0.03	2.77	3.95	72.25	31.15	23.92	4.88
Hierarchical Position (B)	0.56	0.41	9.95	14.22	0.43	0.19	115.51	23.56
AXB	7.84	5.71	4.20	6.00	0.17	0.01	16.95	3.46
Error	1.37		0.70		2.32		4.90	

$\underline{F}(1,246) = 3.88, p = .05 ;$

$\underline{F}(1,246) = 6.74, p = .01.$

\* = Reversed.

Table 17

Means and Standard Deviations of Strain Dimensions as Function of Ownership and Hierarchical Position

Variables	Ownership							
	Public				Private			
	Low		High		Low		High	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
F	22.18	4.26	19.43	4.02	22.01	4.33	17.90	6.33
LLT	11.76	2.96	10.83	2.68	17.88	4.50	16.10	5.63
FU*	16.71	2.79	18.27	2.70	16.97	2.62	18.45	3.65
PSS	17.67	4.06	15.60	2.32	18.24	4.08	14.25	5.05
WA	- 3.44	0.96	- 3.73	1.81	- 3.87	1.10	- 3.37	1.34
BOI*	- 2.68	0.92	- 2.53	0.92	- 3.21	0.78	- 2.48	0.80
UWR*	- 3.18	1.12	- 3.07	0.81	- 4.36	1.48	- 4.28	1.94
LH*	- 8.87	2.32	- 7.93	2.13	-10.14	1.90	- 8.04	2.53
n	45		30		104		71	

\* = Reversed.

was significant showing that the executives low in hierarchy experienced more frustration, more uneasiness, and reported more physical symptomatic strain than their high position counterparts.

For lack of leisure time both the main effects were significant suggesting that the executives in privately owned organizations had more lack of leisure time than their counterparts in publicly owned organizations. Similarly, the executives in low hierarchical position experienced more lack of leisure time than their high position counterparts.

In the case of work aversion only the interaction effect of ownership and hierarchical position was significant showing that the executives in low hierarchical position had higher tendency of work aversion in public organizations whereas this tendency was higher in high position executives of the privately owned organizations.

For bearing of others' incompetence all the effects were significant. The results suggested that the executives in public organizations had to bear others' incompetence more than their counterparts in the private organizations. Similarly, the executives low in hierarchy had to bear others' incompetence more than their high position counterparts. The pattern of interaction suggested that the executives low in hierarchy from privately owned organizations had to bear others' incompetence more than their counterparts in public organizations, but at high hierarchical level there was no significant difference

between the experiences of the executives of public and private organizations.

For unjust work and reward, the main effect of ownership was significant showing that the executives of privately owned organizations encountered more unjust work and reward than the executives in public owned organization.

In the case of latent hostility, both the main effects were significant, though the effect of hierarchical position was stronger. Mean scores showed that the executives of publicly owned organizations and the executives low in hierarchy reported higher latent hostility than their respective counterparts.

The outcome variables as function of ownership and hierarchical position. Data of outcome variables were also subjected to 2 x 2 (ownership X hierarchical position) ANOVA. Summaries of ANOVA, and means and standard deviations are presented in Table 18 and Table 19 respectively.

Table 18 shows that for organizational and superior's effectiveness only the main effect of hierarchical position was significant showing that the executives low in organizational hierarchy rated effectiveness of their organization and superiors lower than their high position counterparts.

For personal effectiveness both the main effects were significant showing that the executives of private organizations and the executives high in hierarchical position rated themselves as more effective than their respective counterparts.

Table 18

Summary of Analysis of Variance of Outcome Variables as Function of Ownership and Hierarchical Position

Source	OSE		PEF		OPC		OA*	
	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>
Ownership (A)	0.27	0.01	23.98	5.21	13.83	1.65	106.32	13.24
Hierarchical Position (B)	1090.15	13.59	88.46	22.91	288.63	34.36	211.42	26.33
AXB	12.46	0.50	9.90	2.56	33.41	3.98	0.38	0.05
Error	24.95		3.86		8.40		8.03	

Source	JS		IL		A		P	
	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>
Ownership (A)	101.65	0.92	0.03	0.04	0.43	0.64	0.03	0.03
Hierarchical Position (B)	9674.98	87.96	17.36	23.67	29.15	43.82	32.18	34.21
AXB	38.99	0.35	0.00	0.00	0.70	1.05	0.77	0.82
Error	110.00		0.73		0.67		0.94	

$\underline{F} (1,246) = 3.88, p = .05; \underline{F} (1,246) = 6.74, p = .01.$

Table 19

Means and Standard Deviations of Outcome Variables as Function of Ownership and Hierarchical Position

Variables	Ownership							
	Public				Private			
	Hierarchical Position				Hierarchical Position			
	Low		High		Low		High	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
OSE	26.36	4.46	31.50	5.40	26.78	4.72	30.93	5.37
PEF	12.73	1.79	14.50	2.51	13.87	1.79	14.75	1.99
OPC	18.16	3.69	19.73	2.94	17.87	2.94	21.07	2.03
OA*	4.93	2.73	2.80	2.80	6.30	2.13	4.34	3.63
JS	57.20	12.27	70.17	10.57	57.74	9.62	72.47	10.15
IL	2.98	0.77	2.40	0.71	2.96	0.84	2.37	0.95
A	2.98	0.77	2.10	0.65	2.95	0.83	2.31	0.87
P	2.91	1.09	3.83	0.90	3.06	1.03	3.73	0.79
n	45		30		104		71	

\* = Reversed.



For organizational pride and contribution the main effect of hierarchical position and the interaction effect were significant. The pattern of mean scores revealed that the executives high in organizational hierarchy had higher scores on organizational pride and contribution than their low position counterparts. The pattern of interaction suggested that the executives of low hierarchical position had no significant difference on organizational pride and contribution irrespective of ownership, but in the case of high hierarchical position the executives of privately owned organizations had higher score on pride and contribution.

In the case of organizational attachment both the main effects were significant showing that the executives from publicly owned organizations and the executives of high hierarchical position had higher organizational attachment than their respective counterparts.

For job satisfaction, intent to leave, feeling of alienation, and sense of power only the main effect of hierarchical position was significant showing that the executives high in hierarchical position had higher job satisfaction, lower intention to leave, lower feeling of alienation, and higher sense of power than their low position counterparts.

Stress - performance relationship. The controversy still persists about the specifics of the stress - performance relationship. It still remains to be decided that whether

Table 20

Performance As Predicted by Dimensions of Stress

Factors		Linear Hypothesis					Inverted U Hypothesis				
		Multi- ple R	R <sup>2</sup>	B	Beta	F	Multi- ple R	R <sup>2</sup>	B	Beta	F
LGC*	(X)	.40	.16	.32	.41	47.48 <sup>a</sup>	.41	.16	-.07	-.09	0.04
	(X <sup>2</sup> )								-.01	.50	1.03
	Intercept			8.67					11.82		
RC	(X)	.12	.01	-.07	-.12	3.42	.23	.05	-.66	-1.11	12.59 <sup>a</sup>
	(X <sup>2</sup> )								-.02	1.01	10.49 <sup>a</sup>
	Intercept			14.72					17.90		
FI*	(X)	.33	.11	.26	.33	30.55 <sup>a</sup>	.33	.11	.31	.40	1.19
	(X <sup>2</sup> )								.00	-.07	0.04
	Intercept			11.90					11.71		
RA*	(X)	.39	.15	.35	.39	44.86	.40	.16	.77	.85	5.96 <sup>b</sup>
	(X <sup>2</sup> )								-.02	-.47	1.80
	Intercept			9.63					7.14		
RO*	(X)	.08	.01	-.04	-.08	1.70	.16	.03	.29	.60	3.59
	(X <sup>2</sup> )								-.01	.69	4.85 <sup>b</sup>
	Intercept			13.52					15.46		
LSS*	(X)	.41	.17	.37	.41	49.27 <sup>a</sup>	.41	.17	-.05	-.05	0.02
	(X <sup>2</sup> )								-.02	.46	1.78
	Intercept			10.44					12.20		
CCRR	(X)	.10	.01	-.12	-.10	2.61	.10	.01	-.09	-.07	0.05
	(X <sup>2</sup> )								.00	-.03	0.01
	Intercept			14.59					14.51		
JD	(X)	.02	.00			NS	.13	.02			NS
	(X <sup>2</sup> )										
	Intercept										
JRCM	(X)	.32	.10	-.35	-.32	28.18 <sup>a</sup>	.32	.10	-.14	-.13	0.13
	(X <sup>2</sup> )								-.01	.19	0.31
	Intercept			11.64					11.56		
IRA*	(X)	.26	.07	.32	.26	18.22 <sup>a</sup>	.27	.07	-.08	-.06	0.04
	(X <sup>2</sup> )								-.04	.33	1.22
	Intercept			12.44					13.31		

\* = Reversed. <sup>a</sup>  $p \leq .01$ , <sup>b</sup>  $p \leq .05$ .

this relationship is negative linear or inverted U type. In the present research, personal effectiveness was taken as an indicator of performance. Both linear and inverted U relationship hypotheses were tested through linear and curvilinear regression equations for relationship between personal effectiveness and the dimensions of stress. Results are presented in Table 20.

Out of the ten linear regression equations six were found to be significant for linearity. In the case of curvilinear prediction only two equations out of ten were significant. The two dimensions for which curvilinear pattern emerged to be significant were role conflict and role overload. Relationship of personal effectiveness with two stress dimensions, namely, constraints of change and rule regulations, and job difficulty turned out to be insignificant for both the linear and curvilinear regression equations. The rest six equations for lack of group cohesiveness, feeling of inequity, role ambiguity, lack of supervisory support, job requirement - capability mismatch, and inadequacy of role authority showed a negative linear relationship with personal effectiveness.

Relationships of the dimensions of strain with the outcome variables. The dimensions of strain were related with outcome variables through canonical correlation. Out of eight possible canonical correlations only the first four were statistically significant ( $p < .05$ ). Hence only the first

Table 21

Canonical Correlations of Dimensions of Strain with Outcome Variables

Variables	<u>CC</u> 1	<u>CC</u> 2	<u>CC</u> 3	<u>CC</u> 4	<u>CC</u> 5	<u>CC</u> 6	<u>CC</u> 7	<u>CC</u> 8
<u>Left hand set</u>								
F	-.51	-.19	.60	.17	-.31	-.02	.23	-.26
LLT	.15	.39	-.17	.17	-.02	.61	.22	.23
FU*	.40	.20	.12	-.09	.08	-.30	.26	.32
PSS	-.58	-.13	-.59	-.36	.15	-.20	.25	-.05
WA	.17	.30	.24	.50	.12	.32	.07	-.02
BOI*	.27	.10	-.29	-.21	-.63	-.20	.07	-.19
UWR*	-.01	-.28	-.01	-.22	-.21	.34	.17	.56
LH*	.22	-.35	.03	.32	.42	.22	.36	-.44
<u>Right hand set</u>								
OPC	.26	.16	.50	.33	.21	.25	-.24	.69
OA*	-.07	.85	.34	-.19	.13	-.11	-.03	-.12
OSE	-.18	-.04	.08	-.29	.06	-.17	-.76	-.01
PEF	-.01	.19	-.41	.46	-.01	.56	.22	-.30
JS	.74	.43	-.49	-.56	.02	-.18	.55	.29
IL	-.08	-.03	-.06	-.20	-.73	.30	.06	.29
A	-.58	.11	-.47	.33	.44	-.34	-.05	.45
P	.01	.13	-.03	.31	-.45	-.59	.02	-.22
<u>Rc</u>	.76	.57	.39	.35	.24	.14	.10	.01
<u><math>\chi^2</math></u>	393.84	186.63	93.12	53.22	21.11	7.18	2.35	.04
df	64	49	36	25	16	9	4	1
<u>p</u>	< .01	< .01	< .01	< .05	> .05	> .05	> .05	> .05

\* = Reversed, Decimal points are omitted from CC's

four canonical correlations would be reported (Table 21).

The first canonical correlation explained 58 per cent of shared variance between linear combinations of the dimensions of strain and outcome variables. A linear combination of outcome variables predominantly formed of job satisfaction, lack of alienation, and organizational pride and contribution; was related to a linear combination of strain dimensions predominantly formed of lack of frustration, feeling of easiness, lack of physical symptomatic strain, not bearing other peoples' incompetence, and lack of latent hostility.

The second canonical correlation explained 32 per cent of shared variance between linear combinations of the dimensions of strain and outcome variables. An outcome situation mainly formed of lack of organization attachment and job satisfaction; was related to a combinations strain dimensions predominantly consisting of lack of leisure time, feeling of latent hostility, unjust work and reward, work aversion, and feeling of easiness.

The third canonical correlation explained 15 per cent of shared variance between linear combinations of the dimensions of strain and that of outcome variables. An outcome situation predominantly formed of organizational pride and contribution, lack of job satisfaction, lack of alienation, lack of personal effectiveness, and lack of organizational attachment; was related to a strain situation predominantly composed of the factors of frustration, lack of physical symptomatic strain, bearing others' incompetence, and work

aversion.

The fourth canonical correlation explained 12 per cent of shared variance between linear combinations of the dimensions of strain and that of outcome variables. A linear combination of lack of job satisfaction, personal effectiveness, organizational pride and contribution, alienation, and sense of power; was related to a strain situation predominantly formed of work aversion, lack of physical and symptomatic strain, lack of latent hostility, unjust work and reward, and bearing others' incompetence.

Prediction of happy work life. An index of happy work life was computed by adding all the outcome variables except organizational and superiors effectiveness with their algebraic sign. The factor of organizational and superior's effectiveness was excluded with the logic that this factor was the only factor external to role incumbent whose work life was under study. In a factor analysis of all the factors included in happy work life index also yield a single factor. The index of happy work life was positively related with organizational pride and contribution, organizational attachment, personal effectiveness, job satisfaction, and sense of power and negatively with intent to leave and alienation.

The study assumed that happiness of work life would be influenced by the several factors under investigation and these factors would have their specific positions in the theoretical model. According to the assumption happy work life

would be the end product or outcome which could be predicted by strain, coping, stress, organizational factors (e.g., organizational climate, leadership styles, and job characteristics), and personal factors (e.g., entrepreneurial orientation, work ethic, locus of control, and biographical factors) in that order of conceptualized hierarchy of importance. A hierarchical regression analysis was performed after hierarchically arranging the factors in the order just mentioned. Prediction of happy work life was significant and explained an astonishingly high 92 per cent of criterion variance. Dimensions of strain, coping, stress, organizational factors, work ethic and entrepreneurial orientation, and biographical factors and locus of control explained 53, 15, 14, 6, 1, and 3 per cent of criterion variance respectively. Out of 59 predictors, 16 predictors had significant individual contribution at the probability level of .01 while 8 predictors were significant at .05 probability level. Results are summarized in Table 22.

Results suggested that a linear combination of predictors predominantly formed of lack of control of accidents and powerful others, lack of inequity, advancement opportunities, lack of role ambiguity, self protection mistrust and lack of reward, lack of physical symptomatic strain, lack of inadequate welfare concern, self control, lack of seniority, diffusion of responsibility, supervisory support, expressive work ethic, active problem solving, lack of nondirectional work approach, lack of strict formalization, decentralized liberal decision

Table 22

Summary of Hierarchical Regression Analysis for Prediction of  
Happy Work Life

Factors	$R^2$	Simple $r$	$B$	Beta	Standard Error	$F$
<u>Strain</u>	.53					
F		-.61	.36	.10	.18	4.28
LLT		-.21	-.43	-.11	.21	4.18
FU*		.29	.10	.01	.18	0.27
PSS		-.57	-.65	-.15	.19	11.53
WA		.08	-.68	-.04	.60	1.28
BOI*		.52	2.03	.09	.87	5.44
UWR*		.15	.31	.03	.49	0.42
LH*		.50	-.39	-.05	.41	0.89
<u>Coping</u>	.15					
APS		.47	.54	.16	.17	9.52
NDWA		-.65	-.49	-.14	.18	7.09
CDPS		.48	.87	.08	.34	6.62
IS		.38	-1.25	-.07	.74	2.84
<u>Stress</u>	.14					
LGC*		.36	.35	.05	.26	1.78
RC		-.28	-.40	-.07	.21	3.76
FI*		.62	1.59	.21	.26	38.14
RA*		.42	1.32	.15	.30	18.85
RO*		.23	.24	.05	.22	1.22
LSS*		.50	1.02	.12	.33	9.47
CCRR		-.20	-.49	-.04	.46	1.78
JD		.03	-.26	-.02	.44	0.37
JRCM		-.23	-.35	-.03	.34	1.04
IRA*		.32	.03	.00	.41	0.01
<u>Organizational Factors</u>	.06					
CENR		-.35	-.00	.00	.19	0.00
AC		-.34	-.98	-.07	.50	3.87
IH		.24	.18	.02	.40	0.21
SF		-.07	-.51	-.10	.10	7.04
ORT		.07	-.45	-.08	.18	6.47
APP		-.09	.37	.03	.36	1.09
C		-.14	-.55	-.06	.33	2.66
DLDM		.27	.14	.12	.54	7.16

contd....



NPC	-.38	.35	.03	.39	0.82
SPMLR	-.11	.13	.12	.33	15.84
NTLS	.38	.12	.02	.21	0.33
TOLS	-.14	-.11	-.01	.53	0.04
KALS	-.40	-.76	-.09	.33	5.21
NF	-.19	-.29	-.04	.31	0.89
FCC	-.08	-.31	-.03	.42	0.53
IWL	-.27	-1.65	-.11	.49	11.57
FC	-.14	-.30	-.03	.39	0.60
ADO	.63	.31	.19	.06	24.32
JVR	.29	.05	.02	.09	0.30
JIF	.29	.02	.01	0.14	0.03

Work Ethic and .01  
Entrepreneurial  
Orientation

EWE	.52	.92	.10	.32	8.15
IWE	-.17	-.10	-.01	.24	0.10
AO	.27	-.13	-.02	.23	0.33
PCA	-.05	.06	.00	.56	0.01
SLWE	-.21	1.06	.07	.48	4.96

Locus of Control .03  
and Biographical  
Factors

SC	.30	1.40	.11	.40	11.88
CLP	-.09	.56	.07	.31	3.27
CACP	-.25	-2.90	-.23	.47	38.85
CAPP	.05	.11	.01	.35	0.11
CS	.26	.21	.03	.19	1.22
VE	.26	.42	.05	.24	3.02
SY	.20	-.16	-.13	.04	12.83
ST*	-.23	-.03	-.02	.06	0.33
CPPP	.25	-.50	-.02	.67	0.57
DR	.10	-1.32	-.10	.40	11.03
IPCCF	.22	-.57	-.05	.35	2.70
LFDLOP	-.26	-.15	-.03	.17	0.70
Intercept		-20.29			

$$R^2 = .92$$

\* = High score means low magnitude of the construct

\* = Reversed,  $F(1,190) = 3.89$ ,  $p \leq .05$ ;  $F(1,190) = 6.77$ ,  $p \leq .01$ .

making, not bearing others' incompetence, lack of nonauthoritarian leadership style, subsistence level work effort, frustration, availability of leisure time, lack of authoritarian climate, lack of role conflict, control of luck and powerful others, and variety of experience predicted 92 per cent of criterion variance in happy work life.

The results of the multiple regression analysis with happy work life as criterion presented thus far employed the hierarchical approach to regression that was based on the conception of temporal sequencing of the domains of constructs like stressors, stress, coping, strain, and outcome. This approach to regression represents the conceptual scheme of constructs culminating into happy work life. It would be recalled from the earlier sections, however, that each of the constructs incorporated in the study was hypothesized (and subsequently also found) to be consisting of underlying dimensionalities. On certain occasions what may be more interesting to find out is the most crucial dimensions from among all the constructs that can be gainfully used to predict happy work life irrespective of any systematic and schematic temporal organization of their sequential development. To achieve this objective of identifying the most important individual predictors irrespective of the constructs to which they belonged, a nonhierarchical stepwise multiple regression analysis was done. The results showed (Table 23) that only 12 variables out of a total of 59 predictor variables accounted

Table 23

Summary of Stepwise Regression Analysis for Prediction of  
Happy Work Life

Variables	Multiple <u>R</u>	<u>R</u> <sup>2</sup> Change	<u>r</u>	Beta	<u>B</u>	Standard Error	<u>F</u> (1,237)
NDWA	.65	.42	-.65	-.23	-.85	.12	54.11
ADO	.79	.20	.63	.20	.33	.05	41.40
FI*	.84	.08	.62	.24	1.79	.23	63.19
CLP	.87	.05	-.25	-.25	3.19	.34	90.23
RA*	.89	.04	.42	.18	1.61	.24	45.12
PSS	.90	.03	-.57	-.19	-.83	.12	43.97
CDPS	.91	.01	.46	.12	1.28	.31	16.73
SPMLR	.92	.01	-.11	.13	1.46	.28	27.51
IWC	.92	.01	-.27	-.10	-1.50	.41	13.24
NALS	.93	.01	-.40	-.13	-1.12	.24	21.21
DLDM	.93	.01	.27	.10	1.28	.34	13.81
LSS*	.93	.01	.50	.10	.84	.25	11.37
Intercept					-3.64		

\* = Reversed,  $\underline{F}(1,237) = 3.88$ ,  $\underline{p} = .05$ ;  $\underline{F}(1,237) = 6.75$ ,  
 $\underline{p} = .01$ .

for as high as 87 per cent of variance whereas all of them taken together explained 92 per cent of variance which meant that by adding as many as 47 more variables to the regression equation one could account only for as little as 5 per cent more of variance. Besides, by adding thirteenth variables onwards, the contribution of each subsequent variable was less than half of a per cent toward the explanation of the criterion variance. Thus it was inferred that for those interested only in a parsimonious prediction of happy work life these twelve variables could be reasonably sufficient. Since numerical coefficients of a regression equation change as a function of the exact number of variables incorporated in an equation, a multiple regression analysis was done incorporating those twelve preidentified "important" predictors and happy work life as the criterion. The results showed (Table 23) that a linear combination of lack of nondirectional work approach, advancement opportunities, lack of feeling of inequity, lack of control of luck and powerful people, lack of role ambiguity, lack of physical and symptomatic strain, constructive deferred problem solving, self protection mistrust and lack of reward, lack of inadequate welfare concern, lack of nonauthoritarian leadership style, decentralized liberal decision making, and supervisory support predicted 87 per cent of criterion variance.

## Chapter 4

### Discussion

Recalling the objectives of the study, it was an effort toward explorations in the structure and dynamics of organizational stress with specific reference to the role incumbents who could be subsumed under the label of executives. Being exploratory by design this study proposed no specific hypotheses in advance. Nevertheless, some research issues were identified at the outset. The issues were sought to be dealt largely with multivariate approaches and the results, it seemed at least to the investigator, had been quite illuminating.

The following section would primarily be devoted to the assignment of meaning to the abstractions of the results accruing from statistical analyses and their elaborations and explanations wherever possible. Of course, some of the issues to be investigated had been identified at the outset and most of them had more or less been 'successfully' explored. However, as is likely to happen with any ongoing research process, certain other and newer issues had been identified during the course of the research together with some of the limitations that put a constraint over the validity of conceptual framework as well as the generalizability of the findings. As an attempt would be made to bring these aspects to the notice in this section, it is hoped that the ordeal of

handling a research like this would be appreciated with an open mind. This would be followed by a brief account of the insights gained during the course of working on this problem that could hopefully pave the way for future research in this area.

A discussion of the structure of various constructs that had been included in the study would be presented in the beginning.

#### Structure of the Constructs

Structure of stress. Factor analysis of responses on stress questionnaire yielded ten factors. They were (a) lack of group cohesiveness, (b) role conflict, (c) feeling of inequity, (d) role ambiguity, (e) role overload, (f) lack of supervisory support, (g) constraints of change and rule regulations, (h) job difficulty, (i) job requirement - capability mismatch, and (j) inadequacy of role authority. Out of the emerged factors few factors like role conflict, role ambiguity, role overload, job requirement - capability mismatch and job difficulty were akin to the dimensions used earlier in stress research. Few other factors like lack of group cohesiveness and lack of supervisory support had been traditionally used as parts of the organizational climate, but in the present study these factors emerged as dimensions of stress because executives in the pre-pilot survey had specifically mentioned that lack of group cohesiveness and lack of leadership support acted on them as stress, and therefore such items had been included in the stress

questionnaire. Other factors, namely, feeling of inequity and inadequacy of role authority were "new" stress dimensions and probably had not been used in earlier stress research.

Structure of biodata. This form had yielded four factors, namely (a) career success, (b) variety of experience, (c) seniority, and (d) status. Actually the biodata questionnaire included only those relevant aspects of one's background that were considered to be crucial for organizational life and in particular for stress research on the basis of literature survey and pre-pilot experiences.

Structure of locus of control. This form consisted of Levenson's locus of control questionnaire. Analysis of this form revealed the existence of eight significant factors though Levenson (1974) had accepted only three factors as "meaningful" in the framework of locus of control. However, it should be noted that the factor analysis in Levenson's study had also revealed the existence of more than three significant factors, but only first three factors were retained as only they were thought to be "meaningful and interpretable". The results of this study suggested that the locus of control measure did not show clear cut separation between internals and externals. Three internal items of Levenson's scale had the highest loadings on a factor named as self control over events. Rest of the factors were of mixed type consisting of internal and external, or external person and situation items. These results indicated that

probably cultural factors were playing a role and the concept of either pure internals or pure externals did not exist in the cognitive universe of our respondents (Sinha, Singh, & Shukla, 1986). No attempt was made to derive or retain "meaningful factors only". The assumption was that one could take only one of the two stands. Either one relied on the ad hoc meaningfulness or what could be conceptually defensible at the outset, or otherwise trust the data structure and attempt to explain the findings. This study subscribed to the latter stand, and thus all the statistically significant factors were retained, used, and interpreted as far as practicable, though perhaps life would have been easier in dealing with only "meaningful" things.

Structure of entrepreneurial orientation. This form yielded three significant factors, namely, (a) achievement orientation, (b) subsistence level work effort, and (c) preference for certainty and autonomy. Achievement orientation could be taken as the core dimension of entrepreneurial orientation. The construct represented by this factor had been found to be related with economic growth (McClelland, 1961).

Structure of work ethic. Results showed two significant factors of work ethic that were somewhat similar to those obtained by Aldag and Brief (1975) and Blood (1969). They were (a) expressive work ethic and (b) instrumental work ethic.



Structure of organizational climate. Factor analysis revealed the existence of fourteen significant dimensions, namely, (a) interpersonal help, (b) strict formalization, (c) organizational risk taking, (d) autonomy and pressure for performance, (e) centralization, (f) decentralized liberal decision making, (g) nonparticipative climate, (h) self protection, mistrust and lack of reward, (i) nonformalization, (j) formalized cross-checking, (k) inadequate welfare concern, (l) formalized communication, (m) competence and expertise nonrecognition, and (n) authoritarian climate.

Structure of leadership style. Factor analysis yielded three significant factors, namely, (a) nurturant task leadership style, (b) task oriented leadership style, and (c) nonauthoritarian leadership style. It was interesting to note the conspicuous absence of participative leadership style as a factor.

Structure of job characteristic. Factor analysis revealed three significant dimensions, namely, (a) advancement opportunities, (b) job variety and responsibility, and (c) job identity and feed back. Constructs similar to such factors were identified and used by Hackman and Oldham (1980) and Turner and Lawrence (1965) for job diagnostic survey.

Structure of strain. Eight significant factors were obtained which were (a) frustration, (b) lack of leisure time, (c) feeling of uneasiness, (d) physical symptomatic strain, (e) work aversion, (f) bearing of others' incompetence,

(g) unjust work and reward, and (h) latent hostility. Since stress and strain were interchangeably used in many earlier research works, some of the strain dimensions might have been obtained under the label of stress in some of the earlier studies. In the present study stress was differentiated from strain, and strain was conceptualized as a maladjustive reaction to stress. Thus the eight dimensions of strain may be treated as eight types of maladjustive reactions to stress.

Structure of coping strategies. Factor analysis yielded four significant factors namely, (a) active problem solving, (b) nondirectional work approach, (c) constructive deferred problem solving, and (d) information seeking. Constructs similar to the dimensions of active problem solving and information seeking had already been traced and used in stress research (Fair, 1976; Billings & Moos, 1984; Singh & Sinha, In press, a) but other dimensions could be thought of as the mixed forms of the earlier identified coping strategies.

Structure of organizational commitment. Only two significant factors emerged, namely, (a) organizational pride and contribution, and (b) organizational attachment. However, the proponents of the scale (Cook & Wall, 1980), had reported three factors, namely, (a) organizational identification, (b) organizational involvement, and (c) organizational loyalty.

Structure of organizational effectiveness. Originally the items purported to measure effectiveness along three dimensions of effectiveness that were organizational,

superior's/supervisory, and personal effectiveness. But factor analysis yielded only two factors, namely, organizational and superior's effectiveness and personal effectiveness. This probably meant that the effectiveness concept might not be differentiated across organizational and supervisory dimensions separately in the minds of the respondents of this study.

Structure of satisfaction. Technically, two statistically significant dimensions emerged from factor analysis, but since all the items had higher loadings on the first factor only, the scale of satisfaction was conceived of as a single (or general factor) scale and was named as job satisfaction.

Relationship of Personal and Organizational Antecedent Factors with Dimensions of Stress

Turning to the results of canonical correlations, ten canonical correlations were obtained. This meant that there were ten independent dimensions of left hand set of variables consisting of personal and organizational factors which were significantly related to corresponding dimensions of right hand set of variables consisting of stress factors (Table 2).

The first right hand canonical variate reflected a position of authority where a role incumbent enjoyed support of seniors and did not feel constrained by rule regulations or by fast changing technology. However, such an incumbent, it appeared, would be likely to experience role overload. In essence, this variate represented a position of authority with role overload. Such a situation is not uncommon in the

executive's world. One component of this variate that could be taken as conducive to stress was role overload. The above mentioned right hand canonical variate was highly related with the left hand variate which reflected a situation where role incumbents had attained seniority but had not worked in many organizations and had mixed locus of control, i.e., the executive might perceive as being controlled simultaneously by accidents, powerful others, as well as by the self. The working climate of such an executive would be marked by lack of centralization of power, lack of decentralized liberal decision making, lack of competence and expertise nonrecognition, and organizational risk taking. In such a situation presumably crucial decisions were taken at higher levels and the demand for the execution of decisions were put on the executives. Of course, the executives were equipped with power, seniority and willingness for risk taking. So pressure for accomplishment of others' decisions could be taken as the main stress producing component of this variate. Zero order correlation of decentralized liberal decision making with role overload was also suggestive of such a relationship.

In the second canonical correlation the right hand, i.e., criterion variate represented a situation in which the executives did not feel constrained due to rule regulations and technological changes, and did not experience role conflict but did experience role ambiguity. The described canonical

variate was highly related with the left hand variate which formed a situation of lack of structure. This kind of result was expected because role expectations might not be clear due to absence of explicit rules etc. Such relationship between lack of structure and role ambiguity had been reported earlier also (House & Rizzo, 1972).

In the third canonical correlation the right hand, i.e., criterion canonical variate represented a situation of low stress or lack of stress consisting of lack of role overload, supervisory support, lack of job difficulty, feeling of equity, lack of job requirement - capability mismatch. This variate was highly related to the left hand variate representing a situation in which the executives had mixed locus of control, had career success, had attained seniority, status, lacked subsistence level work effort, and preference for certainty and autonomy. In such a situation an executive had advancement opportunities together with the assignments that lacked responsibility and variety. Such an executive performed in a climate marked with decentralized liberal decision making, formalized communication, and lack of nonparticipative climate. In essence, the right hand canonical variate represented a situation of lack of stress or low stress which was related with left hand variate saliently loaded by advancement opportunities and mixed locus of control. In fact the left hand variate described a situation pertaining most likely to a senior executive with a successful career as a specialist

who had some "typed" assignment and had no motive of enterprise, even then enjoyed advancement opportunities. Such results were congruent to the theoretical expectations (Hackman & Oldham, 1980; Maslow, 1954) that the executives with high advancement opportunities in the job, and working in a participative climate having decentralized decision making practices would not be likely to experience stress. Advancement opportunities had the components of self actualizing and esteem needs which were supposed to lead to low stress. Participative climate and decentralized decision making were also conducive to low stress because these factors facilitated free exchange of information and provided the experience of esteem in executives.

In the fourth canonical correlation the right hand canonical variate represented a situation of stress in which the executives perceived leadership support and equitable compensation. But they also perceived the assignments to be ambiguous, unstructured, difficult, and not matching with the capabilities. This canonical variate was highly related with the left hand canonical variate representing a situation in which the executives, did not perceive their career as successful, lacked seniority, lacked preference for certainty and autonomy, and lacked instrumental work ethic; worked in a climate which had autonomy and pressure for performance, decentralized liberal decision making, lack of centralization and authoritarian climate features, and perceived their

superior to be nonauthoritarian. Broadly speaking the whole situation was one that indicated that executives with little seniority and success had been given a full free hand by the management, who were of low status and did not know what to do, thus felt their assignments to be difficult and perceived a misfit between their ability and the job requirements. These results may be interpreted in the light of life cycle theory (Hersey & Blanchard, 1982) and nurturant task leadership theory (Sinha, 1980) which advocate that the employees should be allowed to participate in decision making and should be delegated the authority and responsibility but only when they are mature enough to discharge it. Such contingency had been demonstrated in the context of leadership, but this finding also suggested that the contingency theory might be applied in the context of stress, in that, in order to avoid stress role incumbents should be allowed to participate in decision making and should be delegated authority only when they are prepared for it.

In the case of the fifth canonical correlation the right hand canonical variate represented a situation in which the stress conducive components were inadequacy of role authority, constraints of change and rule regulations, and role overload; while other components like group cohesiveness, lack of role conflict, lack of job difficulty, and lack of job requirement - capability mismatch were in the direction of stress reduction. On the whole this situation depicted the

executives who had been given a good number of assignments to complete but were not given a free hand to handle the subordinates. Rule regulations and technological changes were also problematic to them. This situation presumably showed a typical profile of the middle level executives who perceived that they were not equipped with adequate authority though they were given a large number of responsibilities. The "antecedents" to this situation, i.e., the left hand variate represented a situation where the executives with ambiguous sense of control worked in organizations with emphasis on nonformalization, lack of authoritarian climate, and lack of decentralized liberal decision making, and worked under the superiors who used authoritarian leadership style. Inadequacy of role authority might be perceived due to several reasons. Firstly, the executives might not assume personal responsibility for the happenings, secondly, due to nonformalization, legal power of the incumbents might not be clear, and lastly, lack of authoritarian climate might also have contributed to it. The total situation suggested that the executives who believed that their bosses were authoritarian, but as an organizational policy where authoritarianism was discouraged, communication procedures were formalized, and decentralized decision making strategy was not followed; would feel that they had not been provided with adequate authority and execution of centralized decisions made their job overloaded.



In the sixth canonical correlation the right hand variate suggested that only two components of the situation were stress conducive. They were feeling of inequity and job requirement - capability mismatch. This situation was related with the left hand variate which represented a situation where the executives did not have adequate job variety and responsibility. They also lacked job identity and feedback. Such executives had mixed sense of control. They received interpersonal help, enjoyed advancement opportunities, got recognition for their competence and expertise, and had subsistence level work effort. The total situation described the executives having good interpersonal relationship and advancement opportunities but lacking enriched job in terms of responsibility, variety, identity, and feedback. Thus the stress producing components, i.e., inequity and job requirement - capability mismatch might be covarying with lack of enriched job. Such findings were theoretically congruent to the expectation and derived support from the job characteristic theory (Hackman & Oldman, 1980; Turner & Lawrence, 1965).

In the seventh canonical correlation the right hand variate represented a situation where three of the components were stress conducive, namely, lack of supervisory support, job requirement - capability mismatch, and inadequacy of role authority. This variate was related with the left hand variate which denoted a situation representing the executives

who had a mixed sense of control, lacked seniority, had achievement orientation, had worked in organizations in which the executives did not maintain a climate of interpersonal help, and the organizations lacked strong formalization, had decentralized liberal decision making, and lack of nonformalization. Profile of the whole situation indicated that lack of interpersonal help, lack of seniority with decentralized liberal decision making, and lack of formalization might create a perception of lack of leadership support, job requirement - capability mismatch, and inadequacy of role authority.

In the eighth canonical correlation the right hand variate reflected a situation where the executives perceived their authority as inadequate, had a feeling of inequity, felt job difficulty, and also perceived role conflict; had achieved low success in career, had worked in many organizations, had low education and salary etc., had ambiguous sense of control, had preference for certainty and autonomy. They worked (as reflected in the left hand variate) in such organizations which avoided risk taking, and lacked nonformalization. They perceived the leader to be nonauthoritarian and nontask oriented, and had fair amount of identity and feedback in the job. On the whole, the situation indicated that the executives of low hierarchical position who had frequently changed their jobs, had an ambiguous sense of control; perceived their authority to be

inadequate, and felt inequity, and conflict. These findings were congruent with the expectations. Some earlier studies (Sorensen & Sorensen, 1974; Singh, Agrawala, & Malhan, 1981) have also reported that the incumbents low in hierarchy experience more role conflict.

In the case of the ninth canonical correlation the right hand variate represented a situation where two components, namely, role conflict and job requirement- capability mismatch would be stress conducive. This variate was related to the left hand variate representing a situation in which the executives having mixed locus of control, lack of seniority, lack of achievement orientation, preference for certainty and autonomy, worked in organizations which discouraged authoritarian climate, provided autonomy together with pressure for performance, and did not recognize competence and expertise on the job, which provided advancement opportunities but lacked in terms of identity and feedback. On the whole the situation presented a picture of the executives in low hierarchical position with mixed locus of control, lack of achievement orientation, preference for certainty and autonomy. They worked in an organization with incongruent values, and thus felt job requirement - capability mismatch and role conflict. It seemed that lack of seniority, nonrecognition of competence and expertise, and lack of job identity and feedback had created the condition of conflict and misfit. Such results were congruent to the job characteristic theory

(Turner & Lawrence, 1965; Hackman & Oldham, 1980) and also derived support from Kahn et al. (1964) study.

The situation of the tenth canonical correlation suggested that the executives of low status with ambiguous locus of control working in organizations which lacked in interpersonal help, lacked decentralized liberal decision making, lacked nonparticipative climate, had nonauthoritarian leadership; worked on a job which lacked job variety and responsibility, felt inequity, lack of group cohesiveness, and felt job requirement - capability mismatch. Such executives would report that their job was not difficult and the superiors were supportive. Such a condition of stress presumably might be created by the components of low status, lack of interpersonal help, and lack of job variety and responsibility.

#### Identifying the Work Groups with High Stress and Strain

The results based on discriminant analysis showed that a linear combination of the respectively relevant factors of the personal variables and the organizational variables could significantly discriminate between groups low and high on the ten dimensions of stress and the eight dimensions of strain. Assuming that the various kinds of stress and strain, as reflected in their respective factors, were of negative consequences; the results of the discriminant analysis provided the knowledge that could be gainfully used for identifying the group having a high magnitude of the stress and strain dimensions from the group having a low magnitude of

the same.

Personal factors discriminating between low and high stress groups. Since the stress dimensions were ten, conforming to the statistical characteristics, ten standard discriminant functions (SDF) were derived from ten separate discriminant equations.

The first SDF derived for the stress dimension, i.e., lack of group cohesiveness, had higher mean in the group that was low on lack of group cohesiveness meaning that a high score on the variate was conducive to group cohesiveness. Essentially, this variate represented a situation where the executives believing that they had fairly adequate degree of control over completion of projects and were capable of cultivating the relationships, had confidence in their own skill and ability to control certain events of their life, and simultaneously recognized the importance of luck and powerful people but failed to recognize the contingencies of certain reinforcements. Such executives could not be classified clearly as internal or external, thus could be thought of as having a mixed locus of control. So the executives with mixed locus of control, and having experience of working in relatively fewer organizations would be likely to constitute a cohesive group. Here the crucial factors which maximized the perception of group cohesiveness was the belief of internality in project completion and ability to cultivate friendship. So in identifying the executives who constitute

the cohesive group this function could be of importance.

The group high on role conflict had higher mean on the SDF suggesting that the executives who did not aspire for achievements, primarily perceived the reinforcement contingencies beyond their control, and were also relatively less educated and less paid; would be likely to experience high role conflict. Taken as a whole this could be the portrait of the executives who were low in organizational hierarchy, who perhaps believed that the forces that were responsible for generating conflicts were from the work environment (i.e., the role senders who might either be superior or subordinates), and were not motivated to achieve. Some earlier studies (Sorensen & Sorensen, 1974; Singh et al. 1981) also reported that employees low in organizational hierarchy experienced more role conflict.

Perception of equity has been recognized as an important variable in the context of social groups and organizational situations where it has generally been shown that perception of inequity may lead to an unpleasant state of mind which in turn might lead the role incumbents to seek for the ways of reducing inequity. However, little attention seems to have been paid to some of the possible person related factors (including personality) that could tend to make people perceive equity or inequity. The findings of this research showed that the perception of equity (at least as represented in the specific factor of factor analysis) could be correlated

significantly to some of the personal factors also (as evidenced by correlation results, Appendix C).

Perceived equity may be defined as an "equality" of the perceived personal energetic inputs - outcomes ratio with such ratio of relevant focal reference.

The low inequity group had higher mean on the SDF suggesting that the executives for whom work, in terms of effort or instrumentality, was less central (as also was evidenced by a lack of preference for certainty and autonomy in work), had a mixed control of reinforcement, but had achieved career success that, in a way, went together with future planning congruent with powerful people. It seems that such executives achieved (career success for instance) the outcome with relatively less (work related) energetic inputs. Although theoretically even an "advantageous" position with regard to the focal person could lead to an uncomfortable mental state as a disadvantageous position would. However, perhaps the extent of advantage is not as mentally dissatisfying (with the same magnitude of discrepancy from the balanced state) as disadvantage would be, or may be the advantage (discrepancy from the equitable position) was not all that (perceptually) great to call for a perception of inequity. Whatever the reason might be, the results suggested that the higher the score on SDF the lower the perceived inequity would be.

The high role ambiguity group had higher mean on the SDF suggesting that the executives who did not perceive the work to be either instrumental or expressive to their lives, had not achieved success in their career, had mixed locus of control, did not aspire to achieve, and were less educated and less paid; would form the high role ambiguity group. The whole profile depicted that apathy towards work, lack of clear perception of reinforcement contingencies associated with lack of status and career success, were conducive to high role ambiguity. The crucial factors like low status, and lack of centrality of work might be the reason to bring about high ambiguity. Work ethic may play a central role in establishing identity of the individual. Thus the executives who lack both kinds of work ethic might perceive the work situation to be more ambiguous.

The high role overload group had a higher mean on the SDF suggesting that the executives who perceived that contingencies of reinforcements were primarily beyond their control, did not aspire for achievements, had expressive work ethic, i.e., regarded work as central to their lives, had not achieved career success, had worked in relatively fewer organizations, and lacked a preference for certainty and autonomy in work; experienced higher role overload. This profile seemed to describe the executives in relatively lower hierarchical position who enjoyed their work and identified themselves with it. Probably it was the reason why they were



given more and more assignments to complete, but they felt that the time and resources given to complete the assignments were inadequate and hence experienced role overload.

The group high on lack of supervisory support had higher mean on the SDF suggesting that the executives who perceived their work as only instrumental to earn a livelihood and not as expressive, had mixed or ambiguous locus of control, had not achieved career success, had not achieved seniority, were less paid and less educated, and invested only subsistence level effort in work; would constitute the group which perceive low support of leadership. The whole profile suggested that the executives who lacked expressive work ethic and were low in organizational hierarchy did not receive leadership support because they did not properly identify with work and wanted to invest only minimum amount of effort necessary to survive in the system.

For constraints of change and rule regulations the low constraint group had higher mean on the SDF suggesting that the executives who had not achieved success in their career, had primarily external locus of control, lacked subsistence level work effort, did not aspire for achievement, and lacked instrumental work ethic; would form the group which perceived low constraints of change and rule regulations. Here primarily the external control orientation appeared to be the crucial factor in leading to perception of low constraint of change and rule regulation. The executives who had external locus of

control, did not aspire for achievement, and lacked career success, might be of passive kind who somehow adjusted to any change and to rule regulations without any commitment.

The high job difficulty group had higher mean on the SDF suggesting that the executives who invested only subsistence level work effort, thought work as expressive to their lives, had achievement orientation, perceived the mixed contingency of reinforcement, but lacked status and career success; would constitute the group which perceived the job as highly difficult. Here high expressive work ethic, achievement orientation, associated with a subsistence level work effort and lack of education failed one to lead to career success, thus the executives might have a feeling that they could not succeed due to difficult job.

The high job requirement - capability mismatch group had higher mean on the SDF suggesting that the executives who lacked seniority, perceived themselves to be responsible for the outcomes, had worked in many organizations, and treated work as neither expressive nor instrumental to their lives; would experience more job requirement - capability mismatch. The results could be interpreted in the following way: The executives who had experience variety would have worked in many organizations and had left many organizations. Since these executives held themselves as responsible for the events, and so far have not identified themselves with work, they moved from place to place in quest of identity, and here

was the stage of moratorium where executives readily accepted the mismatch of their capability and job requirement.

The group high on inadequacy of role authority had higher mean on the SDF suggesting that the executives who had not achieved career success, had worked in and left many organizations, lacked seniority and status, had mixed locus of control, and lacked expressive work ethic; would form a group which would perceive its authority to be inadequate. Essentially, this profile depicted the young executives who had not settled themselves properly, and felt that they were not given enough authority.

Organizational factors discriminating between low and high stress group. After having described how personal factors discriminated between the high and low stress groups, the discussion would turn to how organizational factors discriminated between the high and low stress groups.

The group high on lack of group cohesiveness had higher mean on the SDF suggesting that the executives who perceived that the organization lacked a climate of interpersonal help, the competence and expertise of the executives were not recognized, union - management relation was good, organization discouraged risk taking, the executives were allowed to participate in decision making, job variety and responsibility was high but advancement opportunities were low, leaders were of nurturant, and nonauthoritarian type; would form a group which would perceive the work group to be less cohesive. Here

the crucial factor which lead to lack of group cohesiveness might be a climate lacking in interpersonal help.

The high role conflict group had higher mean of the SDF suggesting that the executives who perceived that organizations did not follow decentralized decision making strategy and had made the power centralized, where autonomy was provided with pressure to show results, union - management relation was adequate, where everything was not double checked, communication procedures were not very often formal ones, competence and expertise of the executives were not recognized, emphasis on discipline was strong, interpersonal relations were not encouraged, advancement opportunities were poor though they had high amount of job variety and responsibility; would form a high role conflict group. Here the organizational climate in itself could be thought of as conflict producing as executives perceived a strong emphasis on discipline, but simultaneously found that communication procedures were not formal. Similarly, the executives were given the jobs with high variety and responsibility with little possibility for advancement and had nonrecognition of competence and expertise which in turn might have led to an experience of role conflict.

The low inequity group had higher mean of the SDF suggesting that lack of authoritarian climate, lack of nonauthoritarian leadership style, formalized cross checking, advancement opportunities, decentralized liberal decision

making, and autonomy and pressure for performance; would be high in this group. Here lack of authoritarian climate, decentralized liberal decision making and advancement opportunities seemed to have crucial importance in determining the feeling of equity.

The low role ambiguity group had higher mean on the SDF suggesting that lack of nonformalization, lack of autonomy and pressure for performance, lack of nonparticipative climate, inadequate welfare concern, lack of job variety and responsibility, and job identity and feedback; would be high in this group. The whole situation gave the picture of a tight structure in which rule regulation, job requirement, and criteria of evaluation were made explicit which in turn reduced ambiguity.

The executives high in role overload group had higher mean score on the SDF suggesting that lack of decentralized liberal decision making, organizational risk taking, lack of formalized communication, lack of competence and expertise nonrecognition, nonformalization, lack of nonparticipative climate, lack of nurturant task leadership style, lack of nonauthoritarian leadership style, task oriented leadership style would be high in this group. The whole profile depicted an organization where crucial decisions were taken at the top, and middle and junior level executives were asked to execute them. However, the communication procedures were not formalized, the leaders were neither nurturant nor

authoritarian but just task oriented. The executives undertook the assignments, but they felt that the time given to their disposal was not adequate to finish the assignments and hence experienced high role overload.

The group high on lack of supervisory support had higher mean on the SDF suggesting that lack of advancement opportunities, nonparticipative climate, centralization, authoritarian climate, job variety and responsibility, lack of formalized communication, and interpersonal help were high in this group. Here crucial factors determining high lack of leadership support seemed to be centralization, nonparticipative climate, and lack of advancement opportunities. The executives felt that it was the leadership which did not allow them to participate in decision making, had made power centralized, and did not provide enough advancement opportunities. Further they probably felt that due to centralization of power and nonparticipative climate the leader was not in touch with what the junior colleagues were feeling about jobs etc.

The high constraint of change and rule regulations group had higher mean on the SDF suggesting that strict formalization, lack of job variety and responsibility, centralization, job identity and feedback, inadequate welfare concern, nonformalization, autonomy and pressure for high performance, lack of organizational risk taking, decentralized liberal decision making, and interpersonal help; were high in this

group. Essentially the whole profile depicted a situation of rigid structure in which the executives failed to adjust to the technological change and rule regulations.

The high job difficulty group had higher mean on the SDF suggesting that nurturant task leadership style, self protection mistrust and lack of reward, strong formalization, interpersonal help, nonparticipative climate, lack of task oriented leadership style, lack of advancement opportunities, lack of inadequate welfare concern, and lack of authoritarian climate were higher in this group. The situation depicted that strong formalization, lack of task oriented leadership style, lack of advancement opportunities, and nonparticipative climate were probably the crucial factors in creating the condition of high job difficulty. Perhaps due to strong formalization the executives bothered too much for the rules of the game, and freedom of choice was not provided. Moreover, a climate of participativeness through which they could settle the problem was also lacking which further enhanced the perception of job difficulty. A perception of lack of advancement opportunities might also be a contributor to the perception of job difficulty.

The group low on job requirement - capability mismatch had higher score on the SDF suggesting that this group had higher lack of decentralized liberal decision making, lack of organizational risk taking, lack of authoritarian climate, nonparticipative climate, nurturant task leadership style,

lack of formalized communication, lack of strong formalization, and job identity and feedback, here job requirement - capability match apparently resulted due to not giving enough responsibility to the executives, as decentralized liberal decision making was lacking and nonparticipative climate was present. Further the things were not dealt in authoritarian ways, and since there was little demand required on the job whatever capability the incumbent had could have sufficed.

The group low on role authority inadequacy had higher mean on the SDF suggesting that this group had higher mean on authoritarian climate, advancement opportunities, lack of formalized communication, interpersonal help, formalized cross-checking, lack of nonparticipative climate, lack of nonformalization, nurturant task leadership style, and lack of job identity and feedback. Here the executives felt that they were provided with enough authority and also felt that they had enough advancement opportunities, and subordinates were obedient, and every thing was double checked to rectify the mistakes.

Personal factors discriminating between low and high strain. In this subsection the findings of high and low strain groups as discriminated by the personal factors would be discussed. Strain dimensions being eight, eight SDF were derived from eight separate discriminant equations.

The executives in the high frustration group had higher mean score on the SDF suggesting that the executives of this



group were higher on externality and lack of expressive work ethic. The component of expressive work ethic is similar to protestant ethic which is related to high level of persistence, tolerance of boredom, and hard work etc. The external executives probably did not enjoy their work and further if they lacked expressive work ethic, the job might become frustrating.

The executives experiencing high lack of leisure time had higher score on the SDF suggesting that this group had higher score on lack of career success, ambiguous locus of control, and lack of experience variety. The whole profile suggested that the executives who could not achieve success in career, had worked in relatively fewer organizations, and had a mixed locus of control; would form a group that would experience relatively more lack of leisure time. Here two factors, namely, lack of career success and belief of internality in project completion and building contacts appeared to be crucial in creating time pressure. The executives who could not get career success and believed that what they started must come up to the final shape would be likely to fail to devote enough time on leisure activities.

The group with feeling of high uneasiness had higher mean on the SDF showing that this group had higher mean score on lack of experience variety, a subsistence level work effort, and mixed sense of control orientation. Here crucial factors seemed to be lack of belief in the internality in project

completion and cultivating friendship and lack of experience variety. The profile suggested that the executives who had worked in relatively fewer organizations, and were uncertain about the completion of the project that they initiated and in cultivating friendship, felt uneasy and helpless.

The group high on physical symptomatic strain had higher mean on the SDF suggesting that lack of expressive work ethic, primarily external locus of control, lack of seniority, and preference for certainty and autonomy were higher in this group. Here lack of expressive work ethic, external person oriented locus of control, and lack of seniority appeared to be the crucial factors in determining strain. The executives who lacked expressive work ethic and had primarily external locus of control might experience frustration, lack of seniority also seemed to be adding to it, because junior executive might feel less powerful in political dynamics and hence experience more physical symptomatic strain. The argument that feeling of frustration and powerlessness would lead to physical symptomatic strain would derive support from Seligman's (1975) theory of learned helplessness.

The group of executives having higher tendency of work aversion had higher mean on the SDF suggesting that this group had higher mean on lack of status and had mixed sense of control. This variate represented a situation where the executives of (presumably) lower hierarchy having relatively less education and less salary with mixed locus of control did

not feel guilt conscious in taking time off the job in duty hours.

The group of executives who belonged to high bearing of others incompetence group had higher mean on the SDF suggesting that this group had higher mean on a weighted linear combination of lack of expressive work ethic, lack of future planning and dependence on luck and significant others, instrumental work ethic, belief of internality in project completion and building contacts, lack of responsibility diffusion, lack of subsistence level work effort, and lack of preference for certainty and autonomy. The important factors which led to the perception of bearing of others' incompetence were lack of expressive work ethic, lack of future planning and dependence on luck and powerful others, instrumental work ethic, and belief of internal control in project completion and cultivating friendship. A belief of internal control in project completion and cultivating friendship accompanied with lack of future planning and dependence on luck and powerful people in itself formed an incongruent cognitive state which further fuelled by stronger instrumental work ethic resulting in an emotional state that they have to bear others' incompetence to get the job done.

The group of executives low on unjust work and reward had higher mean on the SDF indicating that this group had higher mean on variety of experience, lack of seniority, achievement orientation, career success, subsistence level

work effort, lack of preference for certainty and autonomy, and primarily internal locus of control. This variate represented a situation where executives would have worked in many organizations, but had not advanced in age, did not acquire much work experience, had primarily internal locus of control felt that they were being treated on a fair basis in terms of assignments and rewards.

The group of executives having high latent hostility had higher score on the SDF suggesting that lack of experience variety, mixed locus of control, lack of achievement orientation, preference for certainty and autonomy, and lack of expressive work ethic would be higher in this group. Here lack of experience variety, lack of future planning and dependence on luck and powerful others, belief in internality of project completion and cultivating friendship, and lack of expressive work ethic might explain the situation. The executives who had not worked in many organizations, depended on luck and powerful others, but had belief of internal control in project completion and cultivating friendship, might feel latent hostility towards powerful people because they might be doing their job only for the sake of livelihood and not particularly for gaining a sense of achievement or esteem. In such a case feeling of hostility may not be discharged externally because it may get their valued reward lost.

Organizational factors in discriminating low and high strain groups. This subsection would be devoted to the interpretation of results of high and low strain groups as discriminated by organizational factors. This discussion might have implications for organizational practices to identify and subsequently to modify the organizational conditions which were conducive to strain.

The executives in high frustration group had higher mean on the SDF suggesting that this group had higher score on lack of decentralized liberal decision making, lack of advancement opportunities, nonauthoritarian leadership style, inadequate welfare concern, centralization, strict formalization, job variety and responsibility, lack of formalized communication, lack of formalized cross-checking, and organizational risk taking. Here the whole profile suggested that lack of decentralized liberal decision making and centralization, strong emphasis on discipline and rule regulation accompanied with lack of recorded communication procedures, and lack of systematic cross-checkings, lack of advancement opportunities accompanied with lack of job variety and responsibility, and presence of inadequate welfare concern could be treated as frustration producing.

The executives high in lack of leisure time group had higher mean of the SDF indicating that this group had higher score on lack of strict formalization, lack of formalized communication, lack of nonauthoritarian leadership style,

lack of decentralized liberal decision making, and autonomy and pressure for performance. Essentially this variate described a situation of loose structure where leadership was nonnurturant and nonauthoritarian type. Here loose structure, and autonomy and pressure for performance might be crucial factors which encouraged executives to perform in their own way that in turn might have resulted in lack of leisure time. Since there might not be specific job instructions and the executives might have been given full autonomy to do the job in their own way but to show performance, hence as obligation the executives might have invested the time beyond their office hours, thus reported lack of leisure time.

The group of executives low in feeling of uneasiness had higher mean on the SDF suggesting that this group had higher score on lack of nonauthoritarian leadership style, advancement opportunities, centralization, strict formalization, decentralized liberal decision making, self protection mistrust and unjust reward, task oriented leadership style, and lack of formalized cross-checking. Here advancement opportunities, lack of nonauthoritarian leadership style, centralization, decentralized liberal decision making, and emphasis on discipline and rule regulations might have implications for this kind of finding. The executives who felt that they had ample amount of advancement opportunities, worked in an organization which centralized power but also practiced decentralized decision strategy and where management was

nonauthoritarian; would be likely to feel themselves more important and would not feel uneasy with the state of affairs.

The group low on physical symptomatic strain had higher mean on the SDF suggesting that this group was higher on lack of organizational risk taking, lack of centralization, nurturant task leadership style, advancement opportunities, formalized cross-checking, decentralized liberal decision making, and lack of nonauthoritarian leadership style. The whole profile suggested that the executives who felt that their organization preferred to play safe, allowed decentralized liberal decision making, perceived the leadership as nurturant task oriented, and appraised a good deal of advancement opportunities; would be likely to show less physical symptomatic strain.

The group of executives low on work aversion had higher mean score on the SDF suggesting that this group was higher on job identity and feedback, lack of competence and expertise nonrecognition, lack of nonformalization, lack of advancement opportunities, lack of job variety and responsibility, lack of nurturant task leadership style, lack of formalized cross-checking, and lack of self protection mistrust and lack of reward. This variate represented a situation in which the executives felt that their organizations recognized their competence and expertise, job identity and feedback were quite clear, though at this juncture they did not perceive high possibility of advancement opportunities,

but they knew that reward would be adequately provided; and as a consequence there might be the low tendency of work aversion.

The group of executives who had to bear others incompetence had higher score on the SDF suggesting that this group was higher on lack of strict formalization, lack of decentralized liberal decision making, lack of nurturant task leadership style, task oriented leadership style, lack of self protection and mistrusts lack of nonformalization, nonauthoritarian leadership style, lack of job identity and feedback, lack of advancement opportunities, and inadequate welfare concern. This variate represented a situation where the executives who felt that their organization did not follow decentralized liberal decision making, and did not have a strong emphasis on discipline and rule regulations, leaders were not nurturant, but task oriented and nonauthoritarian, further who felt that there was no clearcut evaluation procedure for job performance, did not perceive a good possibility of advancement, and also felt that there was no adequate welfare concern in the organization; formed a group which perceived that they had to bear others incompetence.

The group executives low in unjust work and reward scored higher mean on the SDF showing that this group had higher score on lack of decentralized liberal decision making, lack of interpersonal help, lack of inadequate welfare concern,



lack of authoritarian climate, lack of strict formalization, autonomy and pressure for performance, and nonformalization. This variate represented a situation where the executives who perceived that their organizations did not follow decentralized liberal decision making, did not encourage interpersonal help, did not have authoritarian climate, had adequate welfare concern, and did not emphasize discipline and rule regulations; would form a group in which unjust work and reward would be perceived less in magnitude.

The group of executives in high latent hostility group had higher mean on the SDF indicating that this group had higher score on lack of decentralized liberal decision making, lack of advancement opportunities, lack of formalized cross-checking, lack of nonparticipative climate, lack of interpersonal help, job variety and responsibility, nonauthoritarian leadership style, lack of autonomy and pressure for performance, and task oriented leadership style. This variate represented a situation in which the executives who perceived that their organization did not follow decentralized decision strategy, that there was little opportunity for advancement though they discharge a variety of important assignments, things were not double checked, some amount of participative climate was there but lacked interpersonal help, and where leaders were task oriented and nonauthoritarian; would form a group which would feel high latent hostility. Here lack of decentralized liberal

decision making, and lack of advancement opportunities accompanied with job variety and responsibility could have been the crucial factors in determining feeling of latent hostility.

### Relationship of the Dimensions of Stress with that of Coping Strategies

The left hand canonical variate in the first canonical correlation represented a high stress condition marked by lack of group cohesiveness, feeling of inequity, role ambiguity, job requirement - capability mismatch, and inadequacy of role authority; that was related with lack of active problem solving, nondirectional work approach and lack of constructive deferred problem solving comprising the right hand canonical variate in which a dominant strategy was nondirectional work approach. This kind of relationship suggested that high stress conditions were associated with ineffective coping strategy.

The second canonical correlation seemed to suggest that coping strategy represented by the canonical variate composed of active problem solving, nondirectional work approach, information seeking, and lack of constructive deferred problem solving was associated with the canonical variate composed mostly of the components representing a low level of stress. In other words, it suggested that these coping strategies in this combination may be effective in stress reduction.

The third canonical correlation suggested that presence of role conflict, job requirement - capability mismatch, inadequate role authority, and presence of supervisory support (in combination); was related with lack of active problem solving, nondirectional work approach, constructive deferred problem solving, and information seeking. This finding suggested that constructive deferred problem solving in combination with nondirectional work approach and information seeking could be a relatively less effective strategy to counteract stress. Here one might be interested to know what constitute nondirectional work approach. Nondirectional work approach was negatively related with active problem solving as well as with other two coping strategies. Nondirectional work approach included the lack of activities of talking to relevant people about the problem, seeking help from people or groups with similar experiences, setting priorities for working, making plans and follow it, not to act too hastily, and taking assignments one by one. On the whole this combination of activities suggested that the executives acted on the problem without proper thought and approach to problem solving was passive and nonsystematic.

#### Coping Strategies as Discriminating between Low and High Stress

In this subsection, the discussion would be devoted to the findings to the question whether the executives constituting low and high stress groups could be identified

on the basis of use of coping strategies. In other words, whether the use of certain combinations of coping strategies were associated with high magnitude of stress experience.

The executives high on lack of group cohesiveness had used more nondirectional work approach and less constructive deferred problem solving. The nondirectional work approach might be treated as an ineffective coping strategy which went together with high lack of group cohesiveness.

The executives in high role conflict group had less active problem solving, less nondirectional work approach, and more information seeking. This finding suggested that information seeking without active problem solving might not be very effective in reducing role conflict.

The executives who felt high inequity used relatively more nondirectional work approach and information seeking, and less constructive deferred problem solving. Here nondirectional work approach in itself was an ineffective coping strategy, which became even stronger in absence of constructive deferred problem solving.

The executives in high role ambiguity group had used more nondirectional work approach as coping strategy and hence could not reduce it.

The executives who did not experience high role overload did not use any of the coping strategy.

The group of executives low on lack of supervisory support used relatively more constructive deferred problem

solving and information seeking. The finding suggested that this combination of coping strategy might be associated with the lowering of the perception of lack of support.

The group of executives who perceived the job to be more difficult used more nondirectional work approach and less constructive deferred problem solving. Both of these coping strategies were ineffective in combination. Obviously nondirectional work approach was not a systematic way of problem solving in which the executives did not do any constructive act. This coping strategy with lack of constructive deferred problem solving led to perception of difficulty in job.

The group of executives experiencing less job requirement - capability mismatch used relatively more information seeking and more nondirectional work approach. Here the strength of discrimination of information seeking was higher which might have helped the executives in reducing mismatch.

The group of executives who felt their role authority to be inadequate used relatively more nondirectional work approach and more information seeking but as indicated by discriminant coefficient the nondirectional work approach was more potent in comparison to information seeking, it went together with a perception of high inadequacy of role authority. Essentially, this combination of coping strategies suggested that the executives using this combination of

coping strategies felt isolated, they did not talk about their problems with anybody, did not seek support from the people with similar experiences. They did not try to act in a systematic fashion to bring the orderliness. They probably tried to seek information about the problem from published sources and obviously a nonsystematic way of problem solving might have not helped. The executives not getting rid of their problems with use of this combination might have a feeling that their efforts were not succeeding because they did not have adequate authority and further they might have a feeling if they had enough authority things would have been in better shape.

### Stress and Strain Relationship

After having discussed how use of coping strategies discriminated between high and low stress groups, the next question to be discussed would be how stress and strain were related. This discussion would help to understand which kind of stress combination would lead to which kind of strain combination. Out of the eight canonical correlations derived, only six were significant, thus the discussion would include only six canonical correlations.

The first canonical correlation suggested that the right hand variate represented a situation where executives did not have leisure time, had latent hostility, felt that work and reward distribution were unjustified, did not have

to bear others incompetence, and had lack of physical symptomatic strain. This variate was highly related to the left hand variate which consisted of lack of role ambiguity, lack of change and rule regulations but had high role overload. Essentially, the only stress conducive factor was role overload which might have led to lack of leisure time, feeling of latent hostility, and perception of unjust work and reward. The results were self evident in that a high role overload created time pressure for the executives, so they tried to finish their jobs either beyond duty hours in the office or carried them home which certainly curtailed their leisure time and it was very natural that they would feel that work and reward distribution were not fair. They might also feel a latent hostility for being hard pressed and over worked.

The second canonical correlation suggested that left hand variate represented a stress situation where the executives experienced constraints of technological change and rule regulations, job requirement - capability mismatch, inadequacy of role authority, and role conflict. This stress situation was related to the right hand variate which represented a strain situation containing frustration, physical symptomatic strain, lack of unjust work and reward, lack of work aversion, and availability of leisure time. The whole situation suggested that presence of role conflict, constraints of change and rule regulations, job

requirement - capability mismatch, and inadequacy role authority in combination led to a relatively higher amount of strain primarily formed by frustration and physical symptomatic strain. Earlier studies conducted in the framework of P-E fit model, and Kahn et al.'s (1964) role episode model also reported findings congruent to the present ones.

The third canonical correlation suggested that the left hand variate represented a situation where the executives experienced role conflict and role ambiguity, had adequate role authority, did not feel constrained due to technological change and rule regulations, and did not have difficult assignments. This variate was significantly related to a strain situation in which executives had high work aversion, lack of leisure time, feeling of uneasiness, and had to bear others' incompetence. The whole situation showed that the executives who had high role authority, perceived their job as less difficult and felt unconstrained but experienced role conflict and role ambiguity; and these might be taken as going together or each leading to a strain situation marked by work aversion and bad feelings.

The fourth canonical correlation showed that the left hand variate represented a situation where the executives perceived high inequity in jobs, role overload, work group uncohesive, but lacked role conflict, did not feel constraints of change and rule regulations, and had leadership support. This variate was significantly related with the variate



representing bearing of others' incompetence, and feeling of uneasiness along with lack of frustration, and lack of unjust work and reward. The whole situation indicated that the feelings of inequity, role overload, lack of cohesiveness along with lack of role conflict, supervisory or leadership support, and lack of constraints change and rule regulations might produce negative feelings in the executives but not severe frustration and physical symptomatic strain.

In the fifth canonical correlation left hand variate represented a situation of stress in which though the executives did not feel inequity, and role conflict, but experienced job requirement - capability mismatch, job difficulty, role overload, and role ambiguity. It might reflect a situation of task based stress which was significantly related with right hand variate having lack of leisure time, physical symptomatic strain along with lack of latent hostility, lack of frustration, and unjust work and reward. The whole situation depicted that the task based stress was related more to chronic type (and less to transitory) symptoms of strain.

The sixth canonical correlation represented a profile of senior executive's work life whose job requirements were not codified, thus created some ambiguity. Such as executive might perceive constraints of change and rule regulations due to their old fashioned training and faith in traditional method of problem solving. Such executives

by the virtue of their high position did not feel inadequacy of role authority, and were given more responsibilities to discharge which made them to report high role overload. Such executives would naturally report lack of leisure time, and since such executives worked beyond their duty hours, they did not feel conscience in taking some time off from job hours. However, they felt easy and important and perceived work and rewards were equitably distributed.

#### Relationship of Coping with Strain

The discussion of this subsection would be devoted to the results of relationship of coping strategies with job related strain. The dimensions of coping strategies being four, four canonical correlations were derived out of which only three were significant and hence the only three canonical correlations would be discussed.

The first canonical correlation suggested that a weighted linear combination of lack of active problem solving, nondirectional work approach, and lack of information seeking; was related with strain conditions marked by presence of physical symptomatic strain, latent hostility along with availability of leisure time, and a perception of just work and reward. The result suggested that this combination of coping strategy would be relatively ineffective probably because it was associated with physical symptomatic strain. Similar results were obtained in an earlier study also (Singh & Sinha, In press, b) where lack of active coping

strategies and presence of palliatives were related to high strain conditions.

The second canonical correlation suggested that the executives using active problem solving and nondirectional work approach but not seeking information; was related to a strain situation having experience of unjust work and reward, frustration, work aversion, and lack of feeling of uneasiness. This suggested that absence of information seeking along with active problem solving and nondirectional work approach could produce unpleasant feelings.

The third canonical correlation showed that the variate composed of lack of information seeking and lack of nondirectional work approach; was related to the variate representing physical symptomatic strain along with lack of frustration, availability of leisure time, lack of latent hostility, lack of feeling of uneasiness, and unjust work and reward. This result suggested that lack of nondirectional work approach in combination with lack of information seeking may not be an effective strategy of coping to reduce physical symptomatic strain.

#### Strain as Discriminated by Coping Strategies

The group of executives high in frustration had higher mean on the SDF suggesting that the executive of this group used relatively more nondirectional work approach, active problem solving, and lack of constructive deferred problem

solving. The finding suggested that active problem solving along with high amount of nondirectional work approach and lack of constructive deferred problem solving was relatively an ineffective combination of coping strategy to alleviate the feeling of frustration.

The group of executives who experienced low lack of leisure time had higher mean on the SDF suggesting that this group did not use all the three coping strategies, namely, active problem solving, nondirectional work approach, and information seeking. Obviously this variate suggested that the executives who did not experience lack of leisure time used all the three coping strategies significantly less in amount than their high counterparts.

The group of executives low on feeling of uneasiness had higher mean on the SDF suggesting that this group used active problem solving relatively more frequently and did not use information seeking. A high amount of active problem solving accompanied with a lack of information seeking (in combination) constituted a coping strategy which might be effective in reducing the feeling of uneasiness.

The group of executives high on physical symptomatic strain had higher mean on SDF suggesting that this group used relatively more nondirectional work approach and did not use constructive deferred problem solving. Obviously this combination of coping strategies was an ineffective coping strategy associated with high physical symptomatic

strain.

The group of executives who reported that they had to bear others' incompetence in higher amount used more nondirectional work approach as a coping strategy. Obviously this strategy of coping was ineffective as it was associated with high feeling of bearing of others' incompetence.

The group of executives low on unjust work and reward had higher mean on the SDF suggesting that this group of executives used less active problem solving, more nondirectional work approach, and less information seeking. Though in isolation nondirectional work approach was an ineffective coping strategy, but a combination of lack of active problem solving, nondirectional work approach, and lack of information seeking formed such a coping strategy which was associated with perception of lack of unjust work and reward. This combination might have formed an overall defensive style in which the executives insulated themselves from the negative information, and avoided the use of any constructive step but adopted a nondirectional work approach which could in a way reduced their feeling of being treated in an unjust way.

The group of executives who reported high amount of latent hostility suggested that this group used more active problem solving, more nondirectional work approach, less constructive deferred problem solving, and more information seeking. Here the strength of discrimination was the highest for nondirectional work approach. A combination of high amount

of nondirectional work approach along with lack of constructive deferred problem solving, active problem solving, and information seeking did not form a coping strategy which may be effective in reducing the feeling of latent hostility. Here it appeared that nondirectional work approach and lack of constructive deferred problem solving were the crucial factors in making the whole combination relatively ineffective.

#### Relationship of Stress and Coping with Strain

This subsection would be devoted to the discussion of the findings of strain as related to combination of stress and coping.

The first canonical correlation reflected that the left hand variate represented a situation of role overload where the executive enjoyed clearly defined roles, perceived themselves to be unconstrained, and did not use any coping strategy substantially; was related to the right hand variate of strain situation containing lack of leisure time, latent hostility, unjust work and reward, and lack of physical symptomatic strain. This finding has already been discussed in a previous section dealing with the relationship of stress with strain that was high role overload would be likely to lead to a lack of leisure time and subsequent unpleasant feelings.

The second canonical correlation suggested that the left hand variate represented a situation where the executives

experienced constraints of technological change and rule regulations, felt that their abilities were not congruent with the job requirements, also perceived inadequate role authority, and used nondirectional work approach as coping strategy; was related to right hand variate depicting a situation where the executives felt a high degree of frustration, physical symptomatic strain, lack of unjust work and reward, and availability of leisure time. Taken as a whole the situation could be explained as one where the executives who felt constrained, perceived a misfit between requirement of the job and ability, lack of adequate role authority and lack of specific act of problem solving led to a strain situation full of frustration and physical symptomatic strain. In fact such a variate could be understood in terms of a situation where the executives felt constrained by change and rule regulations which perhaps also affected their perception of ability - requirement misfit. Moreover, they perceived that their authority was limited and possibly therefore felt frustration which might be associated with physical symptomatic strain.

The third canonical correlation suggested that the left hand variate represented a situation in which the executives experienced role conflict, role ambiguity, lack of supervisory support along with lack of inequity, lack of job difficulty, and adequacy of role authority. These executives appeared to be using active problem solving, lack of information seeking,

and nondirectional work approach as the coping strategies. This variate was related to the right hand variate describing a situation in which the executives did not feel guilt conscious about taking time off the job, felt that work and reward were not equitably distributed, did not have latent hostility, experienced frustration and physical symptomatic strain. The total situation thus formed could be taken to be one of the executives who perceived adequate authority, equity, and lack of job difficulty, but their job assignments had conflicting demands, and were ambiguous in nature as well. More over they did not have leadership support. Such executives might have been given a free hand to work by the top authorities but they were not sure as to what to do, and their professional ethic and business strategy might be incongruent. To counteract such a condition they might be using active problem solving strategies, nondirectional work approach, but did not seek information for problem solving and probably due to this they experienced manifest transitory and chronic strains. It also suggested that together with nondirectional approach and lack of information seeking even an active problem solving effort may not be effective strategy to reduce strain.

The fourth canonical correlation results showed that the left hand variate presented a situation in which the executives perceived an inadequate role authority, job difficulty, and constraints of change and rule regulations



along with equity in the job. Such executives refrained themselves from using nondirectional work approach as coping strategy. This situation was associated with transitory strain, i.e., feeling of frustration but not with chronic strain. The result was quite self explanatory in that job difficulty and inadequacy of role authority hindered the executives efforts of goal attainment and produced frustration.

The fifth canonical correlation showed that the left hand variate represented a situation in which the executives had ambiguous assignments, had excessive amount of work load, and felt a misfit between ability and job requirement. To counteract such stress the executives used information seeking as coping but did not use active problem solving and nondirectional work approach. This situation was associated with a cluster of strains containing lack of leisure time, feeling of uneasiness, lack of unjust work and reward, and lack of latent hostility. Essentially here role ambiguity was taken care of by information seeking, job requirement - capability mismatch, and role overload were associated with lack of leisure time and feeling of uneasiness.

The sixth canonical correlation suggested that left hand variate presented a situation in which the executives felt inadequacy of role authority and a mismatch between ability and job requirement, but did not feel constrained by the changes and rule regulations. To alter the stress

situation the executives used active problem solving but not nondirectional work approach, constructive deferred problem solving, and information seeking. This variate was related to the right hand variate which represented a situation in which the executives experienced physical symptomatic strain and had to bear others' incompetence. Other transitory strain components were absent from the situation. Again, the executives who experienced constraints of technological change and rule regulations, and job requirement - capability mismatch using active problem solving without information seeking could not help themselves out from physical symptomatic strain.

#### Differences across Ownership and Hierarchical Position

How the dimensions of stress, coping, strain and outcome variables differ across ownership and hierarchical position? To explore this, the scores of the dimensions of stress, coping, strain and outcome variables were analysed in a 2 x 2 (ownership X hierarchical position) analysis of variance design. This question was sought to understand as to how the experiences of stress, strain, coping efforts, and outcomes were similar and different for the executives in low and high hierarchical positions of publicly and privately owned organizations. This research issue was addressed because of its vital importance in management practice.

Dimension of stress as a function of ownership and hierarchical position. Result based on the analysis of variance regarding lack of group cohesiveness suggested that the executive from public owned organizations perceived higher lack of group cohesiveness than the executives from privately owned organizations. In public organizations perhaps due to the formalized nature of interaction, informal interpersonal processes did not emerge which, in turn, might have resulted in lack of group cohesiveness.

The executives lower in hierarchy were higher on role conflict, inequity, role ambiguity, role overload, lack of supervisory support, and inadequacy of role authority than their high counterparts. These results suggested that the executives lower in the organizational hierarchy experienced more stress than the higher level executives. In case of role conflicts, executives of lower hierarchy would be likely to receive many assignments some of which could be mutually contradictory and thus might produce role conflict. Similarly the executives of lower hierarchy might feel that they were overdemanded in terms of job, but were inequitably paid, were provided less support and less role authority. The results were in the expected direction. The findings of role ambiguity may be explained in terms of a situation where the low hierarchy executives had a large sphere of role assignments, but expectations were not clearly defined.

For role overload, the effect of ownership was significant showing that the executives from privately owned organizations had higher role overload than their counterparts in public owned organizations. This result simply revealed that the executives from privately owned organizations had more assignments and busy work schedules than the executives from public organizations.

In case of constraints of change and rule regulations the main effect of ownership and the interaction effect were significant. The main effect showed that the executives of public organizations felt more constraints than their counterparts in private organization. This pattern of result might have been obtained due to high rigidity of structure in public owned organizations. The significant interaction effect suggested that the executives in high hierarchical position experienced more constraints than their lower level counterparts in the publicly owned organizations while the executives at lower hierarchical position experienced more constraints of change and rule regulations in privately owned organizations. This pattern might have been obtained because the executives at the junior level have more flexible personality orientation in public organizations, while in the private organizations senior executives were more flexible in their orientation. Essentially, the executives of low hierarchical position from publicly owned organizations, might be expected more flexible because they

were still looking for newer opportunities while the high level executives from private organizations were more flexible because the nature of their job demands in the organizations competing for survival and growth.

In case of job requirement - capability mismatch, the main effect of ownership was significant suggesting that the executives of public organizations experienced more mismatch than the executives in the private organizations. This result suggested that public organizations needed to pay more attention on recruitment policy and human resource development.

For inadequacy of role authority, significant main effect of ownership suggested that the executives from public owned organizations perceived more inadequacy of authority than the executives in private organizations. This result further suggested that the executives from privately owned organizations had been provided with more authority and autonomy to tackle their subordinates than their counterparts from public organizations.

Dimensions of coping strategies as function of ownership and hierarchical position. For all the dimensions of coping strategies both the main effects but no interaction effects were significant. The pattern of mean suggested that the executives from privately owned organization and the executives in higher hierarchical position used effective coping strategies more frequently than their respective counterparts. The results simply suggested that the executives

from privately owned organization had higher level of competence (White, 1959) which also manifested in the results of personal effectiveness, provided them additional capacity to handle the problem at hand. Similarly, the executives of high hierarchical position had higher competence than their low counterparts.

Dimensions of strain as function of ownership and hierarchical position. The main effect of hierarchical position was significant for all the strain dimensions except for work aversion and unjust work and rewards. The results suggested that the executives of low hierarchical position experienced more frustration, more lack of leisure time, more uneasiness, more physical symptomatic strain, more bearing of others' incompetence, and more latent hostility than their counterparts in high hierarchical position. The results suggested that the executives in relatively junior position experienced more strains than their senior counterparts. The findings could be explained in terms of effects of stress which has already been discussed in previous subsection where it was shown that the executives of low hierarchy experienced more stress. Further the executives of lower hierarchy found relatively less opportunity for advancement and actualization, also utilized relatively less effective coping strategies which in turn produced strains.

The significant effects of ownership suggested that the executives from public owned organizations had

significantly more leisure time, had to bear others' incompetence to a less extent, perceived work and reward to be less unjustified and had more latent hostility than the executives from privately owned organizations. The results can be explained as the executives from public organizations might have had less role overload, i.e., had to discharge less amount of assignments and may be therefore had more time for leisure activities than their counterparts in private organizations. By virtue of their legal authority and relatively well defined sphere of duties, the executives of public organizations may not have to accomplish others assignments. Thus bearing others' incompetence loses its importance. Since communication channels in public organizations presumably were less open, the opinion differences were not shared by anybody, thus were accumulated and were reported more latent hostility in the executives of public organization.

The interaction effect of ownership and hierarchical position was significant for the two dimensions of strain, namely, work aversion, and bearing of others' incompetence.

The pattern of interaction for work aversion showed that the executives in low hierarchical position had higher tendency of work aversion in public organizations while this tendency was higher in high position executives in privately owned organizations. The results suggested that relatively junior level executives from public organization might not have felt guilt conscious for taking time off the job whereas

in the private organizations it is the high positioned executives who did it more frequently. The finding could be explained as the executives of privately owned organizations were generally overloaded by job assignments and do not get enough leisure time, so, they might feel like taking some time off the job hours without any guilt feeling, whenever they felt like it.

The pattern of interaction for bearing others' incompetence suggested that relatively junior executives in privately owned organizations had to bear others' incompetence more than their counterparts in the public organizations, but there was no differences between the executives of private and public organizations at the senior level. The results may be explained in terms of the prevailing norms in the organizations. In general, private organizations more often allowed subjective rules and code of conducts which were revised from time to time. Due to subjective rules and code of conducts in the private organizations, the executives of low hierarchical position might have had to bear others' incompetence to a greater extent.

Outcome variables as function of ownership and hierarchical position. The significant main effects of hierarchical position suggested that the executives high in the organizational hierarchy rated their organization and superiors higher on effectiveness, had higher personal effectiveness, had higher organizational pride and contribution,



higher organizational attachment, higher job satisfaction, lower intention to leave, lower alienation, and higher sense of power than their counterparts occupying low hierarchical positions. These results can be explained in relation to stress, strain and coping. The executives high in organizational hierarchy experienced low stress, low strain and used effective coping strategies which in turn might have resulted in positive outcomes.

The effect of ownership was significant for personal effectiveness and organizational attachment suggesting that the executives from private organizations rated their effectiveness and lack of organizational attachment higher than their counterparts in public organizations. The findings suggested may be due to the fact that the executives of private companies had personal effectiveness, they could enjoy higher degree of mobility and this might be due to the higher opportunities in the job market<sup>as</sup> they felt less committed to the present organization.

A significant interaction effect for organizational pride and contribution showed that at low hierarchical level there was no significant difference on organizational pride and contribution between the executives of public and private organizations, but at the high hierarchical level the executives from private organizations had higher feeling of organizational pride and contribution. The finding can be explained in terms of organizational identification. The

feeling of organizational pride and contribution is somewhat similar to the construct of organizational identification. The senior executives of private organizations might have identified with organizational values more strongly than their counterpart in public organizations but this pattern did not hold true for the executives of lower hierarchical position. The executives of high hierarchical position from private organizations might have feeling that (due to high organizational pride and contributions ) their personal survival and growth would depend on organizational survival and growth.

#### Stress - Performance Relationship

One of the relatively persistent controversies in the stress research had been the relationship of stress with performance. That is, whether stress has positive linear, negative linear, or an inverted U relationship with performance. Self rated effectiveness was used as a measure of performance in the present study. Within the specific framework of this study, it was planned to examine the relationship of stress dimensions with effectiveness. Ten linear and ten curvilinear (parabolic) regression equations were formed to examine the relationships.

The results showed that the stress dimensions of role conflict and role overload had inverted U type relationships with effectiveness. Two dimensions had insignificant relationships. The remaining six dimensions of stress showed

negative linear relationship with effectiveness.

This meant that it was valuable to conceptualize the stress construct in terms of its underlying various dimensions because the different dimensions of stress held differential relationship with effectiveness. However, taking a molar view, it could be said that most varieties of stress would have a negative linear relationship with effectiveness. Nevertheless, some specific dimensions (two to be exact) may have an inverted U type relationship still some other specific dimensions ofcourse (two again) would have insignificant relationship with effectiveness.

The findings showing negative linear relationship were obtained also by Jamal (1984). The results conforming to the negative linear hypothesis may be interpreted as meaning that at minimum level of stress, suppose every executive is performing at an adequate level to survive in the organization. Later as stress increases personal effectiveness would decrease. In such situations and for respective stress dimensions the inverted U hypothesis may not hold true. The inverted U hypothesis has been tested but mostly in the laboratory experimental settings. In a typical study a situation of very low performance would be given and further performance would be gauged by manipulating stress level from very low to very high. But in organizational settings one may not assume a state of zero performance level or stress (of certain kinds). Thus under the circumstances, a

negative linear hypothesis between stress and performance might hold true in several instances. However, for two specific dimensions of stress this study was able to demonstrate the inverted U relationship in organizational setting also. This may be due to the fact that stress dimensions of role conflict and role overload might have varied from very low to very high magnitude (as compared to other stress dimensions where "very low" magnitude might not be available) in organizations. This contention gets support also from relatively higher standard deviations of role conflict and role overload compared to that of other dimensions.

#### Relationship of Strain and Outcome Variables

This relationship was examined through the canonical correlation technique.

The left hand variate of the first canonical correlation represented a situation where the executives were not frustrated, had a feeling of easiness, did not have physical symptomatic strain, did not have to bear others' incompetence, and did not report latent hostility. Taken together it was a profile of strainfree executives. The right hand variate represented a situation in which the executives were satisfied with their job, did not feel alienated, and reported sense of organizational pride and contribution to be there. The whole situation taken together represented a notion of happy work life. Thus the whole situation of the first canonical correlation showed that the executives without any

kind of strain lived a happy work life. This finding was self evident.

The left hand variate of the second canonical correlation represented a situation where the executives experienced lack of leisure time, presence of latent hostility, unjust work and reward, work aversion, and feeling of easiness. The right hand variate represented a situation where the executive did not feel organizational attachment, even though they were satisfied with job. If the whole situation was minutely analysed, perhaps lack of leisure time, work aversion, latent hostility, and feelings of unjust work and reward in combination would appear to have made the executives to think over their position in the organization, but they felt as having easy life and also to be important, and looked forward for new opportunities. Probably they thought that they had right to choose better places where compensation for the energetic inputs could be more equitable. So even after being satisfied they did not feel attached to the organizations.

The left hand variate of the third canonical correlation represented a situation where the executives felt a high degree of frustration, did not have physical symptomatic strain, but did have work aversion, and had to bear others' incompetence. The right hand variate represented a situation in which the executives reported to be having a sense of organizational pride and contribution, lack of job satisfaction, lack of personal effectiveness, lack of

alienation, and lack of organizational attachment. Both the variates taken together reflected a situation that could be quite complex. The whole situation could be comprehended in the following way. The experience of frustration, bearing of others' incompetence, and work aversion have made the executives ineffective and dissatisfied. Probably the executives had a high sense of organizational pride and contribution due to public image of the organization which had been neutralized by the experiences of frustration and bearing of others' incompetence and work aversion. Still the executives did not feel helpless and alienated rather tried to look for other opportunities and reduced their organizational attachment to minimize cognitive discomfort.

The left hand variate represented a picture of the strain pattern of an executive who felt unhappy about the incompetent coworkers and unjust work and reward policies and perhaps as a consequence did not feel guilt conscious in taking time off the job if need be, but at the same time, this person appeared to be of a bearing and patient type as well as relatively free from physical symptoms of strain. The above left hand canonical variate was related to the right hand variate that seemed to be differentiated in itself in terms of the variables related to the executives and the variables that pertained to the things beyond the personal sphere. Apparently, this executive worked in a "good" organization and took pride in working for it, felt that his

or her personal contributions to the organization were relatively good, and also felt a reasonably good sense of power. However, (s)he apparently lacked job satisfaction, felt alienated, and did not perceive the organization or the superiors to be particularly effective. At the same time (s)he lacked the intention to leave. Relating both the left and the right hand canonical variates and considering them together, the result seemed to suggest that the executives strain marked by an unhappy work setting but a patient attitude towards it; would be likely to be related to an "outcome" situation where despite of a feeling of job dissatisfaction and alienation (s)he would feel contented with personal sense of power and would not have any major intention to leave. The picture presented here could be taken as one of a person for whom working in a "good" organization and a sense of personal contribution and power could be good enough reason to remain in the organization and the coworkers' support towards work accomplishment may not be central.

#### Prediction of Happy Work Life

As it has already been described in the results section, the variables of strain, coping stress, organizational factors, work ethic and entrepreneurial orientation, and locus of control and biographical factors contributed 53, 15, 14, 6, 1 and 3 per cent (92 per cent in total) of criterion (happy work life) variance respectively.

The results could be explained in terms of a relationship of a linear combination of the 'predictor' variables with dependent variable happy work life. Happy work life was associated with a linear combination of independent variables which presented a situation in which the executives experienced frustration, availability of leisure time, reported absence of physical symptomatic strain, compulsion to bear others' incompetence, used active problem solving, constructive deferred problem solving and did not use nondirectional work approach and information seeking, did not experience role conflict, inequity and role ambiguity; enjoyed superiors' support, did not perceive organizational climate to be authoritarian, a preponderance of rule regulations, perceived the organization as risk taking, perceived that the organizations had elements of self protection and mistrust, reported that the leaders were not nonauthoritarian, perceived that the organization gave due attention to welfare measures of the employees, advancement opportunities to be there, self control over events, control of luck and powerful others, to be controlled by accidents and powerful others, and a lack of responsibility diffusion, reported that work was of central interest to them, invested subsistence level work effort, worked in many organizations, and lacked seniority. Interestingly many stress and strain factors did not contribute significantly to the prediction of happy work life. Moreover, nurturant task leadership style and task oriented leadership



style also failed to contribute significantly to the prediction of happy work life.

Thus far the results obtained from hierarchical regression analysis were discussed. An alternative way to maximize happiness of work life could be a nonhierarchical stepwise regression model. Through this method 12 potent variables were identified which significantly predicted 87 per cent of variance of happy work life. The nondirectional work approach emerged as the most potent variable. The other significant predictors were advancement opportunities, feeling of inequity, control of luck and powerful others, role ambiguity, self protection, mistrust and lack of reward, physical symptomatic strain, constructive deferred problem solving, instrumental work ethic, decentralized liberal decision making, and lack of supervisory support. A close look at the summary table would likely to make it apparent that only on statistical consideration (and even without theoretical consideration) every broad category of variables, i.e., strain, coping, stress, organizational factors, and biographical factors and locus of control got the representation in the prediction equation of happy work life.

#### The Summing Up

The central concern of the study was to understand the stress phenomena which would consist of, in the main, the constructs of stress, coping, and strain. The results

indicated that the stress phenomena may be an important component of an executives organizational life making for the happy work life or lack of it on the basis of the results yielded and their interpretations, it would seem fair enough to conclude that the conceptual schematization that furnished the foundation of the study held reasonably well. Recalling briefly, the research paradigm in a way consisted of five broad categories of variables, i.e., (a) personal and organizational antecedents leading to stress, (b) stress leading to strain, mediated by (c) coping efforts, and (d) strain leading to a number of (e) outcomes. Most constructs depicted underlying dimensionalities whose interrelationships were studied mostly under multivariate analytical approaches. The dimensions of variables classified under the above five categories showed differential relationships with the various dimensions of other variables.

The study could specify (a) the empirical dimensions of the constructs under study (b) interrelationships between the dimensions of two or more constructs, (c) the personal and the organizational factors as well as the types of coping attempts that could significantly identify the low from the high magnitudes of the dimensions of stress and that of strain, (d) the "effects" of the type of organizational ownership and hierarchical position of the executives on the dimensions of stress, coping, strain, and outcomes, and (e) stress - performance relationship.

The salience of the variables/dimensions included in the study was, to some extent, also evidenced by a prediction of happy work life, a more or less acceptable criterion of effectiveness, to a fairly large extent.

All said and done, it seems about time to recapitulate the salient results of the study in a consolidated form with technical details stripped off. Some of the highlights follow.

Stress and related phenomena are important in organizational dynamics. They do have significant consequences at the individual and presumably also at the organizational level.

Stress phenomena can be gainfully understood in conjugation with the related constructs of stressor, strain, and coping.

The consequences of stress phenomena in an organizational dynamics may better be understood in relation to specific personal and organizational variables of import.

Several variables that were being traditionally conceptualized and investigated in univariate conceptions could bloom and unfold their latent underlying dimensionalities to reveal much more fine nuances of the richness and complexity of a real life setting.

Once the identity of the dimensions of the constructs are realized they would have respectively different and at times interactive relationships with other constructs.

Such realization of interactive relationships had remained heithertofore little explored in stress research.

It may not be accurate to talk of a construct such as stress as "the stress" or of outcomes as "the outcomes" and to attempt to see the relationship straight between "the stress" and "the outcomes", and the same would hold true regarding other constructs. The idea that is being forwarded is that the specific dimensions of a construct would have very specific relationship with specific dimensions of other constructs. Therefore, the intervention attempts must take into consideration the specific dimensions for specific purpose.

In addition to process variables, the structural variables may also have specific bearings on organizational dynamics with regard to stress and related phenomena. Therefore, intervention attempts should take into account the structural variables. Specifically, the intervention attempts could be made more fruitful by differentiating and appropriately dealing with the role incumbents who belong to public or private organizations, or occupy lower or higher hierarchical position.

#### Implications of the Study

It was heartening to realize that the study could have a number of theoretical, methodological, and practical implications. Needless to point out that owing to rich data

base and intricate results, the findings of theoretical importance are so numerous that dealing with each of them once again at this point would amount to a voluminous repetition of the facts and their relevance, that have already been enunciated at appropriate places in the discussion section. It is suggested that discussion section itself should be reviewed with an eye for the theoretical implications of the study.

A theory can be said to have several characteristics. Theory is a set of conventions created by the theorists (Hall & Lindzey, 1985, p. 10) as a way of representing reality. Thus no theory is given or predetermined. Each theory makes a set of assumptions about the nature of behavior it seeks to describe and explain. In addition to such assumptions, a theory contains a set of empirical definitions and constructs (concepts) while social psychological theories clearly differ from each other with regard to assumptions, constructs, and emphases, all such theories serve common purpose, one of which is to organize and explicate the theoretical relationship between diverse bits of knowledge about social phenomena (Wrightsmen, 1972, p. 5). According to Hall and Lindzey (1985) a theory should contain a cluster of relevant assumptions systematically related to each other and a set of empirical definitions. The assumptions must be relevant in that they bear upon empirical events with which the theory is concerned. It

should also incorporate the enunciation of the assumptions and the elements within theory as well as empirical definitions, which should be as precise as permissible in present conditions within the relevant field. A theory should lead to the collection or observation of relevant empirical relations not yet observed. The theory should have some utility including the components of verifiability and comprehensiveness. It should also permit the incorporation of known empirical findings within logically consistent and reasonably simple framework. A theory is means of organizing and integrating all that is known concerning a related set of events (Hall & Lindzey, 1985, p. 13). Another function of any theory is to indicate gaps in the knowledge, so that further research will present a more comprehensive understanding of social phenomena (Wrightsmen, 1970, p. 6).

Although no specific claim is made suggesting that the study propounds a theory of stress, nevertheless, the investigator feels that the identification of the problem and the treatment it received could to some extent be taken as fulfilling the requirements (as mentioned above) for being designated as at least a theoretical framework if not a full blown theory.

Methodologically, this study could show the importance of the multidimensional and multivariate conceptualization of the constructs in the real life setting. It was argued that univariate and unidimensional thinking fail to capture

the mutually interacting dynamics of underlying dimensions of the constructs that may be representative of reality.

Practical implications again could be shown for each and every result obtained through various analyses which are forbidding in number to be mentioned at this place. Globally speaking, however, it could be suggested that in most cases stress has negative consequences and an all out effort should be directed towards its alleviation.

#### Limitations of the Study

A critical examination of the method and interpretations is likely to reveal certain limitations of the study, especially for generalizing the findings. Some of the obvious limitations are as follows.

1. The sequencing of many variables such as antecedents and outcomes, or stress and strain was done more for conceptual classification rather than for actual. The investigator was aware of this, but "... a sequential chain of cause and effect (which) is inadequate to simulate the true complexities of ... the social system which we are typically trying to describe. Such simple a - affects b - hypothesis fails to catch the complexities of parallel processing, bidirectional causality, and reverberating feedback that characterize both cognitive and social organization" (McGuire, 1976, p. 37).

2. No "objective" criterion was met for the measurement of several variables (e.g., performance and effectiveness etc.).
3. Some of the variables in the study were touched upon only in a tangential manner such as intent to leave, alienation, and sense of power; and some others such as environment and technology were not included. A comprehensive examination of these and similar other variables might be required for a better understanding of the total picture of stress phenomenon.
4. The sample of the study imposed certain limitations toward wider generalizability of the findings for which a more comprehensive and stringent sampling could have been worth while.

#### Suggestions for Future Research

The results obtained and limitations realized us to think for an extension of the present research and alternative approaches and considerations regarding stress phenomenon in organizations. Some of possible ones could be as follows.

1. Sequential causal ordering of the constructs for the model testing may be better understood by path analytic procedure, thus the study may be extended or the existing data base may further be explored by using path analytic procedure including each and every dimension of the constructs in the study.



2. The same project may be taken up in the other types of organizations such as organizations with differing product-mix, service organizations, and common- weal organizations.
3. The study may be extended for other hierarchical levels not included in this study.
4. The study could be done in a longitudinal design.
5. Though this study included time management as a coping strategy, the treatment of this variable had not been thorough; subsequent studies would be warrented focusing on the time management as a strategy of coping with stress.
6. The study may have some implications for organizational strategies of coping with stress, but did not include it as a coping strategy, thus subsequent studies may use organizational strategies together with personal strategies of coping as an extension of this work.
7. As mentioned earlier, the stress phenomena should ideally be approached by the scholars of widely varying disciplines; a team of multidisciplinary scholars particularly from medical, psychology, and organizational behavior background with a common definition of stress may extend this project by using both subjective and objective measures of stress, strain, and outcomes. This would facilitate the comprehensive understanding of the stress phenomenon and help to clear the mist of confusion on several interdisciplinary points of conflict in terms of conceptualization and interpretation.

## References

- Abdel-Halim, A. A. (1980). Effect of person job compatibility on managerial reactions to role ambiguity. Organizational Behavior and Human Performance, 26, 193-211.
- Aiken, M., & Hage, J. (1966). Organizational alienation: A comparative analysis. American Sociological Review, 31, 497-507.
- Alber, A. (1979). Job enrichment for profit. Human Resource Management, 18, 15-25.
- Aldag, R. J., & Brief, A.P. (1975). Some correlates of work values. Journal of Applied Psychology, 60, 757-760.
- Aldrich, H.E., & Pfeffer, J. (1976). Environment of organizations. Annual Review of Sociology, 24, 279-287.
- Althauser, R.P. (1972). Multicollinearity and nonadditive regression models. In H.M. Blalock, Jr. (Ed.), Causal models in the social sciences (pp. 453-472). London: MacMillan.
- Anderson, C. R. (1976). Coping behaviors as intervening mechanisms in the inverted U stress performance relationship. Journal of Applied Psychology, 61, 30-34.
- Anderson, C.R. (1977). Locus of control, coping behaviors, and performance in a stress settings: A longitudinal study. Journal of Applied Psychology, 62, 446-451.

- Andrisani, P. J., & Nestel, G. (1976). Internal - external control as contributor to and outcome of work experience. Journal of Applied Psychology, 61, 156-165.
- Argyris, C. (1964). Integrating the individual and the organization. New York: Wiley.
- Argyris, C., & Schon, D. (1974). Theory in practice. San Francisco, California: Jossey Bass.
- Armstrong, T. B. (1971). Job content and context factors related to satisfaction for different occupational levels. Journal of Applied Psychology, 55, 57-65.
- Arsenault, A., & Dolan, S. (1983). The role of personality, occupation and organization in understanding the relationship between job stress, performance, and absenteeism. Journal of Occupational Psychology, 56, 227-240.
- Baird, L.L. (1969). Study of role relations of graduate students. Journal of Educational Psychology, 60, 15-21.
- Bales, R., & Strodtbeck, F. (1951). Phases in group problem solving. Journal of Abnormal and Social Psychology, 46, 485-495.
- Basowitz, H., Persky, H., Korchin, S.J., & Grinker, R. R. (1955). Anxiety and Stress. New York: McGraw Hill.
- Batlis, N. C. (1980). Job involvement and locus of control as role perception/individual outcome relationships. Psychological Reports, 46, 111-119.

Bedeian, A. G., Armenakis, A. A., & Curran, S. M. (1981).

The relationship between role stress and job related interpersonal and organizational climate factors. Journal of Social Psychology, 113, 247-260.

Bedeian, A. G. , Mossholder, K. W., & Armenakis, A. A. (1983).

Role perception - outcome relationships: Moderating effects of situational variables. Human Relations, 36, 167-184.

Beehr, T. A. (1976). Perceived situational moderators of the relationship between subjective role ambiguity and role strain. Journal of Applied Psychology, 61, 35-40.

Beehr, T. A., & Newman, J.E. (1978). Job stress, employee health, and organizational effectiveness: A facet analysis, model and literature review. Personnel Psychology, 31, 665-699.

Beehr, T.A., Walsh, J.T., & Taber, T.D. (1976). Relationship of stress to individually and organizationally valued states: Higher order needs as moderators. Journal of Applied Psychology, 61, 41-47.

Benner, P.E. (1983). A phenomenological study of mid career men: Relationships between work meanings, work involvement and stress and coping at work. Dissertation Abstracts International, 44, 285-286 B.

Billings, A. G., & Moos, R.S. (1984). Coping, stress and social resources among adults with unipolar depression. Journal of Personality and Social Psychology, 46, 877-891.

- Blake, R., & Mouton, J. S. (1964). The managerial grid. Texas: Gulf Publishing Company.
- Blau, P.M. (1955). The dynamics of bureaucracy. Chicago: University of Chicago Press.
- Blood, M. R. (1969). Work values and job satisfaction. Journal of Applied Psychology, 53, 456-459.
- Bluedorn, A. C. (1982). The theories of turnover: Causes, effects and meaning. Research in Sociology of Organizations. 1, 75-128.
- Brief, A. P., & Aldag, R.J. (1976). Correlates of role indices. Journal of Applied Psychology, 61, 468-472.
- Brockhaus, R. H. (1982). The psychology of the entrepreneur. In C.A. Kent, D.L. Sexton, & K. H. Vesper (Eds.), Encyclopedia of entrepreneurship, (pp. 39-57). Englewood Cliffs, N. J. : Prentice Hall.
- Burke, R.J., Firth, J., & McGratten, C. (1974). Husband wife compatibility and management of stress. Journal of Social Psychology, 94, 243-252.
- Burke, R.J., & Weir, T., (1980). Coping with stress of managerial occupations. In C. L. Cooper & R. Payne (Eds.), Current concerns in occupational stress (pp. 299-335). New York: Wiley.
- Burke, R.J., Weir, T. & Duncan, G. (1976). Informal helping processes in work setting. Academy of Management Journal, 19, 370-377.

- Cameron, K. (1978). Measuring organizational effectiveness in institutions of higher education. Administrative Science Quarterly, 23, 606-632.
- Caplan, R.D. (1972). Organizational stress and individual strain: A socio-psychological study of risk factors among administrators, engineers, and scientists. Doctoral Dissertation. University of Michigan. Dissertation Abstracts International, 32, 6706B - 6707B.
- Caplan, R.D. (1976, September). Occupational differences in job demands and strain. Paper presented at the meeting of American Psychological Association, Washington: D.C.
- Caplan, R.D., Cobb, S., French, J.R.P., Harrison, R.V., & Pinneau, S.R. (1975). Job demands and workers health: Main effects and occupational differences, Washington: U. S. Government Printing Office, NIOSH Report, #75-160.
- Carlson, S. (1951). Executive behavior: A study of the work load and working methods of managing directors. Stockholm: Stromberg.
- Carpenter, H.H. (1971). Formal organizational structural factors and perceived job satisfaction of class room teachers. Administrative Science Quarterly, 16, 460-465.
- Cattell, R.B., Eber, H.W., & Tatsuoka, M.M. (1970). Handbook for sixteen personality factor questionnaire (16 PF). Champaign, Illinois: Institute of Personality and Ability Testing.

- Centers, R. (1948). Motivational aspects of occupational satisfaction. Journal of Social Psychology, 28, 187-217.
- Cofer, C.N., & Appley, M.H. (1964). Motivation: Theory and Research. New York: Wiley.
- Cohen, S. (1980). After effect of stress on human performance and social behavior: A review of research and theory. Psychological Bulletin, 88, 82-108.
- Cohen, S., & Wills, T.A. (1985). Stress, social support and the buffering hypothesis. Psychological Bulletin, 98, 310-357.
- Cook, J., & Wall, T. (1980). New work attitude measures of trust, organizational commitment and personal need nonfulfilment. Journal of Occupational Psychology, 53, 39-52.
- Cooley, D., & Lohnes, P. (1971). Multivariate data analysis. New York: Wiley.
- Cooper, C.L., & Marshall, J. (1976). Occupational sources of stress: A review of the literature relating to coronary heart disease and mental ill-health. Journal of Occupational Psychology, 49, 11-28.
- Coverdale, S.H., & Terborg, J.R. (1980). A re-examination of the Mobley, Horner, and Hollingsworth model of turnover: A useful replication. Paper presented at 40th annual meeting of Academy of Management, Detroit.
- Cox, T. (1978). Stress. Baltimore: University Park Press.

- Cox, T. (1980). Repetitive work. In C.L. Cooper & R. Payne (Eds.), Current concerns in occupational stress (pp. 23-41). New York: Wiley.
- Cox, T., & Mackay, C.J. (1979). Occupational stress and quality of work life. In C. Mackay & T. Cox (Eds.), Response to stress (pp. 1-8). England: Business Press Ltd.
- Cox, T., & Mackay, C. (1981). A transaction approach to occupational stress. In E. N. Corlett & J. Richardson (Eds.), Stress, work design and productivity (pp. 91-113). New York: Wiley.
- Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 279-334.
- Dailey, R.C. (1978). Relationship between locus of control, perceived group cohesiveness, and satisfaction with coworkers. Psychological Reports, 42, 311-316.
- Davis, K. (1981). Human behavior at work (6th ed.). New Delhi: Tata McGraw-Hill.
- Dayal, I., & Sharma, B.R. (1971). Strike of supervisory staff in the State Bank of India. Bombay: Progressive Publications.
- Dewe, P., Guest, D., & Williams, R. (1979). Methods of coping with work related stress. In C. Mackay & T. Cox (Eds.), Response to stress: Occupational Aspects (pp. 69-84). London: IPC Science and Technology Press.
- Etzioni, A. (1976). Modern organizations, New Delhi: Prentice-Hall of India Pvt. Ltd.



- Etzioni, D. (1984). Moderating effects of social support on the stress - burnout relationship. Journal of Applied Psychology, 69, 615-622.
- Evans, M.G. (1974). Extension of a path goal theory of motivation. Journal of Applied Psychology, 59, 172-178.
- Fair, E.W. (1976). Keeping pressure out of your work life. Supervisor, 38, 23-24.
- Feather, N. T. (1975). Values in education and society. New York: Free Press.
- Fiedler, F.E. (1967). A theory of leadership effectiveness. New York: McGraw-Hill.
- Folkman, S., Aldwin, C., & Lazarus, R.S. (1981). The relationship between locus of control, cognitive appraisal and coping. Paper presented at the meeting of the American Psychological Association, Los Angeles.
- Forehand, G.C., & Gilmer, B.V.H. (1964). Environmental variance in studies of organizational behavior. Psychological Bulletin, 62, 361-382.
- French, J. R.P., & Caplan, R.D. (1972). Organizational stress and individual strain. In A. J. Marrow (Ed.), The failure of Success (pp. 30-66). New York: Amacom.
- French, J. R. P., Jr., Rogers, W., & Cobb, S. (1974). Adjustment as a person environment fit. In G. V. Coelho, D. A. Humberg & J. F. Adams (Eds.), Coping and adaptation: Interdisciplinary perspectives (pp. 316-333). New York: Basic Books.

- Frew, D.R. (1974). Transcendental meditation and productivity. Academy of Management Journal, 17, 362-368.
- Frew, D.R. (1977). Management of stress: Using TM at work. Chicago: Nelson Hall.
- Friedlander, C. (1965). Comparative work value systems. Personnel Psychology, 18, 1-20.
- Furnham, A., & Schaeffer, R. (1984). Person-environment fit, job satisfaction and mental health. Journal of Occupational Psychology, 57, 295-307.
- Garrison, J.P., & Pate, L.E. (1977). Toward development and measurement of interpersonal power construct. Journal of Psychology, 97, 95-106.
- Gemmill, G.R., & Heisler, W.J. (1972). Fatalism as a factor in managerial job satisfaction, job strain and mobility. Personnel Psychology, 25, 241-250.
- Georgopoulos, B.S. (1970). An open system theory model for organizational research. In A. R. Neghandi & J. P. Schwitter (Eds.), Organizational behavior models. Kent, Ohio: Kent State University.
- Georgopoulos, B.S., & Tannenbaum, A.S. (1957). A study of organizational effectiveness. American Sociological Review, 22, 234-250.
- Goldberg, D.P. (1972). The detection of psychiatric illness by questionnaire. Institute of Psychiatry, Maudsley Monographs, Oxford University Press.

- Goodman, P.S., Pennings, J.M., & Associates (1977). New perspectives on effectiveness. San Francisco: Jossey Bass.
- Gore, S. (1973). The influence of social support and isolated variables on meliorating the consequences of job loss. Dissertation Abstract International, 34, 5330 A.
- Gouldner, A.W. (1954). Patterns of industrial bureaucracy. Glenco, Ill. : Free Press.
- Gouldner, A.W. (1955). Metaphysical pathos and the theory of bureaucracy. American Political Science Review, 49, 496-507.
- Graen, G.B. (1976). Role making processes within complex organizations. In M.D. Dunnette (Ed.), Handbook of industrial and organizational psychology (pp. 1201-1245). Chicago: Rand McNally.
- Greene, C.N. (1972). Relationships among role accuracy, compliance, performance evaluation, and satisfaction with managerial dyads. Academy of Management Journal, 15, 205-215.
- Guilford, J.P. (1954). Psychometric methods (2nd ed.). New York: McGraw-Hill.
- Gurin, G., Veroff, J., & Feld, S. (1960). Americans view their mental health. New York: Basic Books.
- Hackman, J.R., & Oldham, G.R. (1980). Work redesign. California: Addison- Wesley Publishing Company.
- Hage, J. (1980). Theories of organizations: Form, process, and transformation. New York: Wiley.

- Hage, J., & Aiken, M. (1967). Program change and organizational properties: A comparative analysis. American Journal of Sociology, 72, 503-519.
- Hall, C.S., & Lindzey, G. (1985). Theories of personality. New Delhi: Wiley Eastern.
- Hall, D.T. (1972). A model of coping with role conflict: The role behavior of college educated women. Administrative Science Quarterly, 17, 471-486.
- Hall, D.T., & Mansfield, R. (1971). Organizational and individual response to external stress. Administrative Science Quarterly, 16, 533-547.
- Hall, R.H., Hass, J.E., & Johnson, S.J. (1967). An examination of the Blue - Scott and Etzioni typologies. Administrative Science Quarterly, 12, 118-139.
- Halpin, A.W., & Winer, B.J. (1952). The leadership behavior of airplane commander. Columbus: Ohio State University Research Foundation.
- Hamner, C., & Tosi, H. (1974). Relationship of role conflict and role ambiguity to job involvement measures. Journal of Applied Psychology, 59, 497-499.
- Harrison, R.V. (1975, November). Job stress and worker health: Person-environment fit. Paper presented at the meeting of the American Public Health Association, Chicago.

- Harrison, R.V. (1976). Job demands and workers healths:  
A person-environment misfit. Doctoral Dissertation, The  
University of Michigan. Dissertation Abstracts International,  
37, 1035 B.
- Harrison, R.V. (1978). Person - environment fit in job stress,  
In C.L. Cooper & R. Payne (Eds.), Stress at work (pp. 175-205).  
New York: Wiley.
- Haythorn, W. A., Couch, D., Langham, H.P., & Carter, L. (1950).  
Leader behavior description. Columbus: Ohio State University  
Personnel Research Board.
- Heisler, W.J. (1974). A performance correlate of personal  
control beliefs in an organizational context. Journal of  
Applied Psychology, 59, 504-506.
- Hemphill, J.K. (1956). Group dimensions: A manual for their  
measurement. Columbus: Ohio State University.
- Hendrix, W.H., Ovalle, N.K., & Troxler, R.G. (1984).  
Behavioral and physiological consequences of stress and  
its antecedent factors. Journal of Applied Psychology, 70,  
188-201.
- Hersch, D.D., & Scheibe, K.E. (1967). Reliability and  
validity of internal-external as a personality dimension.  
Journal of Consulting Psychology, 31, 609-613.
- Hersey, P., & Blanchard, K.H. (1982). Management of  
organizational behavior: Utilizing human resources (4th ed.).  
New Delhi: Prentice - Hall of India Pvt. Ltd.

- Herzberg, F., Mausner, B., Peterson, R.O., & Capwell, D.F. (1957). Job attitudes: Review of research and opinion. Pittsburgh: Psychological Service of Pittsburgh.
- Herzberg, F., Mausner, B., & Snyderman, B.B. (1959). The motivation to work. New York: Wiley.
- Hofstede, G.H. (1967). The game of budget control. Assen, Netherlands: Van Gorcum.
- Holland, J.L. (1973). Making vocational choices: A theory of careers. Englewood Cliffs., N.J.: Printice Hall.
- Hoppock, R. (1935). Job satisfaction. New York: Harper.
- House, R.J., & Rizzo, J.R. (1972). Role conflict and ambiguity as critical variables in a model of organizational behavior. Organizational Behavior and Human Performance, 7, 467-505.
- Hulin, C., & Smith, P. (1965). A linear model of job satisfaction. Journal of Applied Psychology, 49, 209-216.
- Indik, B.P. (1968). The scope and problem and some suggestions toward a solution. In B.P. Indik & F.K. Berrien (Eds.), People, groups and organizations (pp. 3-26). New York: Teachers College Press.
- Ivancevich, J.M., & Donnelly, J.H. (1974). A study of role clarity and need for clarity for three occupational groups. Academy of Management Journal, 17, 28-36.
- Ivancevich, J.M., & Matteson, M.T. (1984). A type A-B person work environment interaction model for examining occupational stress and consequences. Human Relations, 37, 491-513.

- Jahoda, M. (1958). Current concepts of positive mental health. New York: Basic Books.
- Jamal, M. (1984). Job stress and job performance controversy: An empirical assessment. Organizational Behavior and Human Performance, 33, 1-21.
- James, L.R., & Jones, A.P. (1974). Organizational climate: A review of theory and research. Psychological Bulletin, 81, 1096-1112.
- Jans, N.A. (1979). Work involvement and work satisfaction: An investigation of two indicators of work adjustment in organizations. Unpublished Ph.D. thesis, University of New South Wales.
- Jans, N.A. (1982). The nature and measurement of work involvement. Journal of Occupational Psychology, 55, 57-67.
- Jenkins, C.D., Rosenman, R.H., & Friedman M. (1967). Development of an objective psychological test for the determination of the coronary-prone behavior pattern in employed men. Journal of Coronary Disease, 20, 371-379.
- Johnson, T.W., & Stinson, J.E. (1975). Role ambiguity, role conflict and satisfaction: Moderating effects of individual differences. Journal of Applied Psychology, 60, 329-333.
- Kahn, R.L. (1981). Work and health. New York: Wiley.
- Kahn, R.L., & Quinn, R.P. (1970). Role stress: A framework of analysis. In A. McLean (Ed.), Mental health and work organizations (pp. 50-115). Chicago: Rand McNally.

- Kahn, R.L., Wolfe, D., Quinn, R., Snoek, J., & Rosenthal, R. (1964). Organizational stress: Studies in the role conflict and role ambiguity. New York: Wiley.
- Kanungo, R.N. (1979). The concept of alienation and involvement revisited. Psychological Bulletin, 86, 119-138.
- Katz, D., & Kahn, R.L. (1978). The Social Psychology of Organizations. New York: Wiley.
- Keenan, A., & Newton, T.J. (1984). Frustration in organizations: Relationships to role stress, climate, and psychological strain. Journal of Occupational Psychology, 57, 57-65.
- Keller, R.T. (1975). Role conflict and ambiguity: Correlates with job satisfaction and values. Personnel Psychology, 28, 57-64.
- Kerlinger, F.N. (1978). Foundations of behavioral research (2nd ed.). Delhi: Surjeet Publications.
- Kets de Vries, M.F.R. (1980). Stress and the entrepreneur. In C.L. Cooper & R. Payne (Eds.), Current concerns in occupational stress (pp. 43-59). New York: Wiley.
- Khandwalla, P.N. (1983). PI management. Vikalpa, 8, 219-238.
- Khandwalla, P.N. (1985). Pioneering innovative management: An Indian excellence. Organizational Studies, 6, 161-184.
- Klein, D.C. (1960). Some concepts concerning the mental health of the individual. Journal of Consulting Psychology, 24, 228-293.



- Kronhauser, A. (1965). Mental health of industrial worker. New York: Wiley.
- Kory, R.B. (1976). TM - An investment with positive returns. Management World, 5, 8-11.
- Kraut, A.I. (1975). Predicting turnover of employees from measured job attitudes. Organizational Behavior and Human Performance, 13, 233-243.
- Kukla, R.A. (1976). Person - environment fit in the high school: A validation study. Doctoral Dissertation, The University of Michigan. Dissertation Abstract International, 36, 5352 B.
- Kuna, D.J. (1975). Meditation and work. Vocational Guidance Quarterly, 23, 342-346.
- Landy, F.J., Farr, J.L., & Jacobs, R.R. (1982). Utility concepts in performance measurement. Organizational Behavior and Human Performance, 30, 15-40.
- Latack, J.C. (1984). Career transition within organizations: An exploratory study of work, nonwork, and coping strategies. Organizational Behavior and Human Performance, 34, 296-322.
- Lawler, E.E. (1968). A correlational - causal analysis of relationship between expectancy attitudes and job performance. Journal of Applied Psychology, 52, 462-468.
- Lawrence, P.R., & Lorsch, J.W. (1967). Organization and environment. Boston: Harvard University, Division of Research, Graduate School of Business Administration.

- Lazarus, R.S. (1966). Psychological stress and the coping process. New York: McGraw - Hill.
- Lazarus, R.S. (1971). The concept of stress and disease. In L. Levi (Ed.), Society, stress and disease (Vol. 1, pp. 53-58). London: Oxford University Press.
- Lazarus, R.S. (1975). A cognitively oriented psychologist looks at biofeedback. American Psychologist, 30, 553-561.
- Lazarus, R.S. (1978, November). The stress and coping paradigms. Paper presented at conference entitled the critical evaluation of behavioral paradigms for psychiatric science at Glendon Beach, Oregon.
- Lazarus, R.S., & Launier, R. (1978). Stress related transactions between person and environment. In L.A. Pervin & M. Lewis (Eds.), Perspectives in interpersonal psychology (pp. 287-327). New York: Plenum.
- Lester, D., & Genz, J.L. (1978). Internal - external locus of control, experience as police officer, and job satisfaction in municipal police officers, Journal of Police Science and Administration, 6, 479-481.
- Levenson, H. (1974). Activism and powerful others: Distinction within the concept of internal - external locus of control. Journal of Personality Assessment, 38, 377-383.
- Levi, L. (1981). Preventing work stress. Reading, Mass: Addison-Wesley.

- Levinson, D. (1959). Role, personality and social structure in organizational setting. Journal of Abnormal and Social Psychology, 58, 170-180.
- Lewin, K. (1951). Field theory in social science. New York: Harper and Row.
- Likert, R. (1961). New patterns of management. New York: McGraw-Hill.
- Likert, R. (1967). The human organizations. New York: McGraw-Hill.
- Lippitt, R., & White, R.K. (1943). The social climate of children group. In R.G. Barker, J.S. Kounin, & H.F. Wright (Eds.) Child behavior and development (pp. 485-508). New York: McGraw-Hill.
- Litwin, G., & Stringer, R. (1968). Motivation and organizational climate. Boston: Harvard University Press.
- Locke, A.A. (1976). The nature and causes of job satisfaction. In M.D. Dunnette (Ed.), Handbook of industrial and organizational psychology (pp. 1297-1349). Chicago: Rand McNally.
- Lodhal, T.M., & Kejner, M. (1965). The definition and measurement of job involvement. Journal of Applied Psychology, 49, 24-33.
- Lowe, R., & McGrath, J.E. (1971). Stress, arousal, and performance: Some findings calling for new theory. Project report, AF 1161-67 AFOSR.

- Lyons, T. (1971). Role clarity, satisfaction, tension and withdrawal. Organizational Behavior and Human Performance, 6, 99-110.
- Madhu, K., & Harigopal, K. (1980). Role conflict and role ambiguity in relation to job involvement, job performance, age, and job tenure. Indian Journal of Applied Psychology, 17, 1-6.
- Majumdar, R.K., MacDonald, A.P., & Greever, K.B.A. (1977). A study of rehabilitation counselors: Locus of control and attitude toward the poor. Journal of Counseling Psychology, 24, 137-141.
- Mansfield, R. (1972). The initiation of graduates industry: The resolution of identity - stress as determinant of job satisfaction in the early months at work. Human Relations, 25, 77-86.
- Margolis, B.L., & Kroes, W.H. (1973). Occupational stress and strain. Occupational Mental Health, 2, (No. 4, whole issue).
- Marshall, J., & Cooper, C.L. (1979). Executives under pressure: A psychological study. London: MacMillan.
- Martin, T.M. (1979). A contextual model of employee turnover intentions. Academy of Management Journal, 22, 313-324.
- Maslow, A.H. (1954). Motivation and personality. New York: Harper.

- Mass, J.B. (1966). Satisfaction with work as indexed by income level. Unpublished Ph.D. Dissertation, Cornell University.
- McClelland, D.C. (1961). The achieving society. Princeton, N. J. : D. Van Nostrand Co., Inc.
- McGrath, J.E. (1970). Major substantive issues: Time setting and the coping process. In J.E. McGrath (Ed.), Social psychological factors in stress (pp. 22-40). New York: Hold Rinehart, Winston.
- McGrath, J.E.(1976). Stress and behavior in organizations. In M. D. Dunnette (Ed.), Handbook of industrial and organizational psychology (pp. 1351 - 1395). Chicago: Rand McNally.
- McGuire, W.J. (1976). The yin and yang of progress in social psychology: Seven koan. In L.H. Strickland, F.E. Aboud, & K.J. Gergen (Eds.), Social Psychology in transition (pp. 33-49). New York: Plenum Press.
- Meglino, B.M. (1977). The stress - performance controversy. Michigan State University Business Topics, Autumn, 53-59.
- Miles, R.H. (1976). A comparison of the relative impacts of role perceptions of ambiguity and conflict by role. Academy of Management Journal, 19, 25-35.
- Miller, G.A. (1967). Professionals in bureaucracy: Alienation among industrial scientists and engineers. American Sociological Review, 32, 755-768.

- Mitchell, T.R., Smyser, C.M., & Weed, S.E. (1975). Locus of control: Supervision and work satisfaction. Academy of Management Journal, 18, 623-631.
- Mobley, W.H. (1982). Employee turnover: Causes, consequences, and control. Reading, Massachusetts: Addison-Wesley.
- Mobley, W., Griffeth, F., Hand, H., & Meglino, B. (1979). Review and conceptual analysis of the employees turnover process. Psychological Bulletin, 86, 493-522.
- Monat, A., & Lazarus, R. (1977). Stress and coping: An anthology. New York: Columbia University Press.
- Moos, L. (1981). Management stress. Reading, Mass: Addison-Wesley.
- Moos, R.H., & Billings, A.G. (1982). Conceptualizing and measuring coping resources and processes. In L. Goldberger & S. Breznitz (Eds.), Handbook of stress: Theoretical and clinical aspects (pp. 212-230). New York: Free Press.
- Morris, J.H., Steers, R.M., & Koch, J.L. (1979). Influence of organizational structure on role conflict and role ambiguity for three occupational groupings. Academy of Management Journal, 22, 58-71.
- Mowday, R.T., Steers, R.M., & Porter, L.W. (1979). The measurement of organizational commitment. Journal of Vocational Behavior, 14, 224-247.
- Muchinsky, P., & Tuttle, M. (1979). Employees turnover: An empirical and methodological assessment. Journal of Vocational Behavior, 14, 43-77.

- Murray, H.A. (1959). A preparation: for the scaffold of a comprehensive system. In S. Koch (Ed.), Psychology: A study of science (Vol. 3, pp. 7-54). New York: McGraw-Hill.
- Nath, A. (1980). Role conflict as related to job level and job tenure. Indian Journal of Applied Psychology, 17, 39-43.
- Newman, J.E. (1974). Predicting absenteeism and turnover: A field comparison of Fishbein's model and traditional job attitude measures. Journal of Applied Psychology, 59, 610-615.
- Newman, J.E., & Beehr, T.A. (1979). Personal and organizational strategies for handling job stress: A review of research and opinion. Personnel Psychology, 32, 1-43.
- Nicholson, N., Wall, J., & Lischerson, J. (1977). The prediction of absence and propensity to leave, the employees' job satisfaction and attitudes toward influence in decision making. Human Relations, 30, 499-514.
- Nunnally, J. (1981). Psychometric theory. New Delhi: Tata McGraw-Hill.
- Oliver, R.L., & Brief, A.P. (1977-78). Determinants and consequences of role conflict and ambiguity among retail sales managers. Journal of Retailing, 53 (4), 47-58, 90.
- Organ, D.W., & Greene, C.N. (1974). Role ambiguity, locus of control, and work satisfaction, Journal of Applied Psychology, 59, 101-102.

- Owens, W.A. (1976). Background data. In M.D. Dunnette (Ed.), Handbook of industrial and organizational psychology (pp. 609-644). Chicago: Rand McNally.
- Pareek, U. (1979). MAO Scales. Ahmedabad: Indian Institute of Management.
- Pareek, U. (1985). Human resource development in public enterprises. In T.L. Sankar, R.K. Mishra, & S. Ravishankar (Eds.), Leading issues in public enterprise management. Bombay: Himalaya Publishing House.
- Parker, D.F., & DeCotiis, T.A. (1983). Organizational determinants of stress. Organizational Behavior and Human Performance, 32, 160-177.
- Paul, R.J. (1974). Role clarity as a correlate of satisfaction, job related strain, and propensity to leave-Male vs. female. Journal of Management Studies, 11, 233-245.
- Payne, R., & Pugh, D.S. (1976). Organizational structure and climate. In M.D. Dunnette (Ed.), Handbook of industrial and organizational psychology (pp. 1125-1173). Chicago: Rand McNally.
- Pearlin, L.I., & Schooler, C. (1978). The structure of coping. Journal of Health and Social Behavior, 19, 2-21.
- Pelz, D.C., & Andrews, F.M. (1976). Scientists in organizations. Michigan : Institute of Social Research.
- Pestonjee, D.M. (1979). Alienation, insecurity and job satisfaction. Vikalpa, 4, 9-14.



- Pestonjee, D.M., & Ahmed, N. (1977). Alienation and insecurity as related to occupational level. Indian Journal of Social Work, 38, 263-268.
- Pestonjee, D.M., & Singh, S.P. (1979). Effect of participation and alienation on job satisfaction of blue-collar workers. Proceedings of the 66th Section of Indian Science Congress Association, Hyderabad, January 3-7.
- Pestonjee, D.M., Singh, A.P., & Singh, Y.K. (1981). Alienation as a moderator variable of the relationship between job satisfaction - job performance. Proceedings of the 68th Session of the Indian Science Congress Association. Varanasi, January 3-7.
- Pfeffer, J. (1977). Usefulness of the concept. In P. Goodman & Pennings (Eds.), New perspectives on organizational effectiveness (pp. 132-145). San Francisco: Jossey - Bass.
- Phares, E.J. (1976). Locus of control in personality. Morris Town, N.J. : General Learning Press.
- Pinneau, S.R., Jr. (1975). Effects of social support on psychological and physiological strains. Dissertation Abstracts International, 36, 5359 B.
- Porter, L.W., Crampon, W.J., & Smith, F.J. (1976). Organizational commitment and managerial turnover: A longitudinal study. Organizational Behavior and Human Performance, 15, 87-98.

- Porter, L.W., & Lawler, L.E. (1965). Properties of organizational structure in relation to job attitudes and job behavior. Psychological Bulletin, 64, 23-51.
- Porter, L.W., & Steers, R.M. (1973). Organizational work and personal factors in employees turnover and absenteeism. Psychological Bulletin, 80, 151-176.
- Porter, L.W., Steers, R.M., Mowday, R.T., & Boulian, P.V. (1974). Organizational commitment, job satisfaction, and turnover among psychiatric technicians. Journal of Applied Psychology, 59, 603-609.
- Price, J. (1977). The study of turnover. Ames: Iowa State University Press.
- Pugh, D.S., Hickson, D.J., Hinings, C.R., & Turner, C. (1969). The context of organizational structure. Administrative Science Quarterly, 14, 94-114.
- Quinn, R.P., & Shepard, L.J. (1974). The 1972-1973 quality employment survey: Descriptive statistics with comparision data from the 1969-1970 survey of working conditions. Ann Arbor, Michigan: The Institute for Social Research.
- Rabinowitz, S., & Hall, D.T. (1977). Organizational research on job involvement. Psychological Bulletin, 84, 265-288.
- Radnor, M., & Neil, N. (1971). The progress of management science activities in large U.S. industrial corporations. U.S.A., : North Western University Program Publication, 4-71, Cooperative International Program of Studies of Operation Research and the Management Sciences.

- Rao, C.R. (1973). Linear statistical inference and its applications. New Delhi: Wiley Eastern Private Ltd.
- Rastogi, R. (1978). Effects of organizational bureaucratic structure, size, management level and authoritarianism on perceived need satisfaction. Unpublished Ph.D. Dissertation, Department of Humanities and Social Sciences, Indian Institute of Technology Kanpur.
- Read, W. (1962). Upward communication in industrial hierarchies. Human Relations, 15, 3-15.
- Rizzo, J.R., House, R.J., & Lirtzman, S.I. (1970). Role conflict and ambiguity in complex organizations. Administrative Science Quarterly, 15, 150-163.
- Rogers, D.L., & Molnar, J. (1976). Organizational antecedents of role conflict and ambiguity in top level administrators. Administrative Science Quarterly, 21, 598-610.
- Rosen, H. (1961). Desirable attributes of work: Four level of management describe their job environment. Journal of Applied Psychology, 45, 156-160.
- Rosen, H., & Weaver, L.G. (1960). Motivation in management: A study of four managerial levels. Journal of Applied Psychology, 44, 386-392.
- Rotter, J.B. (1954). Social learning and clinical psychology. Englewood Cliffs, N.J. : Prentice- Hall.
- Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 80, (1, whole No. 609).

- Saleh, S.D., & Hosek, J. (1976). Job involvement: Concepts and measurement. Academy of Management Journal, 19, 213-224.
- Schacht, R. (1970). Alienation. New York: John Wiley.
- Schneider, B. (1975). Organizational climate: An essay. Personnel Psychology, 28, 447-480.
- Schneider, B., & Hall, D.T. (1972). Toward specifying the concept of work climate: A study of Roman Catholic diocesan priests. Journal of Applied Psychology, 56, 447-455.
- Schuler, R.S. (1975). Role perceptions, satisfaction and performance: A partial reconciliation. Journal of Applied Psychology, 60, 683-687.
- Schuler, R.S. (1977). Role conflict and ambiguity as a function of the task structure-technology interaction. Organizational Behavior and Human Performance, 20, 66-74.
- Schuler, R.S. (1980). Definition and conceptualization of stress in organizations. Organizational Behavior and Human Performance, 25, 185-215.
- Schuler, R.S. (1982). An integrative transactional process model of stress in organizations. Journal of Occupational Behavior, 3, 51-62.
- Schuler, R.S. (1984). Organizational stress and coping: A model and overview. In A.S. Sethi & R.S. Schuler (Eds.), Handbook of organizational stress coping strategies (pp. 35-67). Cambridge: Ballinger Publishing Company.

- Schwyhart, W.R., & Smith, P.C. (1972). Factors in the job involvement: Concepts and measurements. Academy of Management Journal, 19, 213-224.
- Scott, W.E. (1966). Activation theory and task design. Organizational Behavior and Human Performance, 1, 3-30.
- Seashore, S. (1954). Group cohesiveness in the industrial work group. Ann Arbor: University of Michigan Press.
- Seligman, M.E.P. (1975). Helplessness. San Francisco: W. H. Freeman.
- Selye, H. (1946). The general adaptation syndrome and the disease of adaptation. Journal of Clinical Endocrinology, 6, 117.
- Sharma, B.R. (1982). Determinants of job satisfaction among bank employees. Management and Labour Studies, 5, 85-95.
- Sims, H.P., & Szilagyi, A.D. (1975). Leader structure and subordinate satisfaction for two hospital administrative levels: A pathanalysis approach. Journal of Applied Psychology, 60, 194-197.
- Singh, A.P., & Singh, H.C. (1984). Occupational stress, security - insecurity and job involvement of first level industrial supervisors. Indian Journal of Industrial Relations, 20, 177-185.
- Singh, B., Agrawala, U. N., & Malhan, N.K. (1981). The nature of managerial role conflict. Indian Journal of Industrial Relations, 17, 1-26.

- Singh, S. (1984). Managerial turnover: Perceived causes and consequences. Indian Journal of Applied Psychology, 21, 20-24.
- Singh, S., & Sinha, A.K. (1986). Stress at work: Correlates of perceived time urgency and challenge in work. Psychological Studies, 31, 48-50.
- Singh, S., & Sinha, A.K. Dimensions of strategies of coping with job related stress. Indian Journal of Applied Psychology, (In press, a).
- Singh, S., & Sinha, A.K. Relationship of coping strategies with job related strain Advances in Psychology, (In press, b).
- Singh, S. P. (1980). Job satisfaction, participation, and alienation as factors influencing production in case of blue-collar industrial workers. Unpublished Doctoral Dissertation, Varanasi: Banaras Hindu University.
- Sinha, A.K. (1983). Dimensions of organizational climate: A case of university departments. Indian Educational Review, 18 (4), 1-14.
- Sinha, A.K., & Kumar, D. (1985). Interrelationship among leadership styles, interpersonal need structure, and organizational climate. Indian Psychological Review, 28, 30-37.
- Sinha, A.K., Singh, S., & Shukla, A. (1986). Structure of locus of control in Indian executives: Is it different? Psychological Studies, 31, (In press).

- Sinha, J.B.P. (1973). Some problems of public sector organizations. New Delhi: National Publishing House.
- Sinha, J.B.P. (1980). The nurturant task leader: A model of the effective executive. New Delhi: Concept Publishing Company.
- Sorensen, J.E., & Sorensen, R.L. (1974). The conflict of professionals in bureaucratic organizations. Administrative Science Quarterly, 59, 38-42.
- Srivastava, A.K., & Sinha, M.M. (1983). Perceived role stress as a function of ego-strength and job involvement of managerial personnel. Psychological Studies, 28, 8-12.
- Starcevich, M.M. (1972). Job factor importance for job: Job satisfaction and dissatisfaction across different occupational levels. Journal of Applied Psychology, 56, 467-471.
- Stogdill, R.M. (1974). Handbook of leadership. New York: The Free Press.
- Stogdill, R.M., & Coons, A.E. (Eds.). (1957). Leader behavior: Its description and measurement. Research Monograph No. 88. Columbus: Bureau of Business Research, Ohio State University.
- Strickland, B.R. (1978). Internal - external expectancies and health - related behaviors. Journal of Consulting and Clinical Psychology, 46, 1192-1211.
- Sutton, R.I., & Ford, L.H. (1982). Problem solving adequacy in hospital subunits. Human Relations, 35, 675-701.

- Szilagyi, A.D., & Sims, H.R., Jr. (1975). Locus of control and expectancies across multiple occupational levels. Journal of Applied Psychology, 60, 638-640.
- Tatsuoka, M. (1970). Discriminant analysis: The study of group differences. Campaign, Illinois: Institute of personality and ability testing.
- Tatsuoka, M. (1971). Multivariate analysis: Techniques for educational and psychological research. New York: Wiley.
- Tinning, R.J., & Spry, W.B. (1981). The extent and significance of stress symptoms in industry with examples from the steel industry. In E.N. Corlett & J. Richardson (Eds.), Stress, work design and productivity (pp. 129-148). New York: Wiley.
- Tiwari, N.D. (1981). Public sector in retrospect and its role in sixth plan. In M.R. Virmani (Ed.), Public enterprises from Nehru to Indira Gandhi: Objectives, achievements and prospects. (pp. 70-73). New Delhi: Centre for public sector studies.
- Tosi, H. (1971). Organization stress as a moderator of the relationship between influence and role response. Academy of Management Journal, 14, 7-20.
- Tosi, H., & Tosi, D. (1970). Some correlates of role conflict and role ambiguity among public school teachers. Journal of Human Relations, 18, 1068-1075.
- Turner, A.N., & Lawrence, P.R. (1965). Industrial jobs and workers. Boston: Harvard Graduate School of Business Administration.



- Valecha, G.K. (1972). Construct validation of internal - external locus of reinforcement related to work related variables. Proceedings of the 80th Annual Convention of the American Psychological Association, 7, 455-456.
- Van Sell, M., Brief, A.P., & Schuler, R.S. (1981). Role conflict, role ambiguity: Integration of the literature and direction for future research. Human Relations, 34, 43-71.
- Vroom, V.H., & Yetton, P.W. (1973). Leadership and decision making. Pittsburgh, PA : University of Pittsburgh Press.
- Walters, L.K., Roach, D., & Walters, C.W. (1976). Estimate of future tenure, satisfaction, and biographical variables as predictors of termination. Personnel Psychology, 29, 57-60.
- Warr, P., Cook, J. & Wall, T. (1979). Scales for the measurement of some work attitudes and aspects of psychological well-being. Journal of Occupational Psychology, 52, 129-148.
- Weber, M. (1964). Theory of social and economic organization. (Trans. by A.M. Henderson & T. Parsons) (2nd ed.). New York: Free Press.
- Webster, A.M. (1981). Webster's new collegiate dictionary. Calcutta: Scientific Book Agency.
- Weiss, H.M., Ilgen, D.R., & Sharbaugh, M.E. (1982). Effects of life and job stress on information search behaviors of organizational members. Journal of Applied Psychology, 67, 60-66.

- Weissenberg, P., & Gruenfeld, L.W. (1968). Relationship between job satisfaction and job involvement. Journal of Applied Psychology, 52, 469-473.
- White, R.W. (1959). Motivation reconsidered: The concept of competence. Psychological Review, 66, 297-333.
- White, R.W. (1974). Strategies of adaption: An attempt at systematic description. In G.V. Coelho, D.A. Humberg, & J.E. Adams (Eds.), Coping and adaptation (pp. 47-68). New York: Basic Books Inc.
- Wollack, S., Goodale, J.G., Wijting, J.P., & Smith, P.C. (1971). Development of the survey of work values. Journal of Applied Psychology, 55, 331-338.
- Wood, D.A. (1974). Effects of worker orientation differences on job attitudes correlates. Journal of Applied Psychology, 59, 54-60.
- Worthy, J.C. (1950). Organizational structure and employee morale. American Sociological Review, 15, 169-179.
- Wrightsmann, L.S. (1972). Social psychology in the seventies. California: Brooks/Cole Publishing Company Ltd.
- Yerkes, R., & Dodson, J.D. (1908). The relationship of stimulus to rapidity of habit formation. Journal of Comparative Neurological Psychology, 18, 459-482.
- Yuchtman, E., & Seashore, S.E. (1967). A system resource approach to organizational effectiveness. American Sociological Review, 32, 891-903.

- Zaltman, G., Duncan, R., & Holbeck, J. (1973). Innovations and organizations. New York: Wiley.
- Zajonc, R.B. (1965). Social facilitation. Science, 149, 269-274.
- Zastro, C. (1984). Understanding and preventing burnout. British Journal of Social Work, 14, 141-155.

## Measures used in the Study

Form 1: Stress questionnaire

Below are given some job and work group characteristics. Choosing an appropriate number indicate: to what extent they are true in case of your job.

True To Almost No Extent	... 1
True To Small Extent	... 2
True To Some Extent	... 3
True To A Great Extent	... 4
True To Very Great Extent	... 5

- \_\_\_ (1) I can predict what others will expect of me tomorrow in my job. (R)
- \_\_\_ (2) I am clear what others expects of me on my job. (R)
- \_\_\_ (3) On my job, whatever situation arises there are established procedures for handling it. (R)
- \_\_\_ (4) I get enough facts and information to work my best. (R)
- \_\_\_ (5) I don't get enough time to finish my assignments.
- \_\_\_ (6) Policies and regulations limit the alternative solution open to me.
- \_\_\_ (7) My formal authority provides me with adequate power over the behavior of subordinates. (R)
- \_\_\_ (8) I can give better performance if some more time is available at my discretion.
- \_\_\_ (9) I don't have sufficient number of people to carry out the assignments.
- \_\_\_ (10) Speed of technical change creates problem in my job.
- \_\_\_ (11) A large proportion of my job is a rush job.
- \_\_\_ (12) Often I am asked to speed up my job.
- \_\_\_ (13) I have enough power to discipline the people in my work group for not carrying out the instructions that are given to them. (R)
- \_\_\_ (14) I receive an assignment without adequate resources and materials to execute it.

- \_\_\_ (15) I am required to do things that should be done differently.
- \_\_\_ (16) I work with two or more groups who work quite differently.
- \_\_\_ (17) I receive incompatible requests from two or more people.
- \_\_\_ (18) I do things that are acceptable to one person not to others.
- \_\_\_ (19) I feel my salary/remuneration is fair considering what other people in this firm are paid. (R)
- \_\_\_ (20) I feel my salary/remuneration is fair considering what other firms in this area pay. (R)
- \_\_\_ (21) I feel my fringe benefits are fair considering the fringe benefits provided by other firms in this area. (R)
- \_\_\_ (22) It is very easy for me to find a job as good as the one I have now with another employer. (R)
- \_\_\_ (23) My abilities don't fit the requirement of this job.
- \_\_\_ (24) My supervisor/boss keeps her/him self informed about the way his or her people think and feel about things. (R)
- \_\_\_ (25) My supervisor/boss stands up to outsiders for the people he/she supervises. (R)
- \_\_\_ (26) My supervisor/boss takes personal interest in those he/she supervises. (R)
- \_\_\_ (27) I can easily succeed in the present job. (R)
- \_\_\_ (28) People of my work-group are ready to help each other. (R)
- \_\_\_ (29) People of my work group get along very well. (R)
- \_\_\_ (30) My job assignments are quite difficult.
- \_\_\_ (31) My job assignments are taxing to my abilities.
- \_\_\_ (32) People of my work group stick together very well. (R)
- \_\_\_ (33) My subordinates are cooperative. (R)

\_\_\_\_ (34) My abilities are well matched to the requirements of the job. (R)

\_\_\_\_ (35) I am able to complete the work I start. (R)

Form 2 : Biodata questionnaire

Some personal information:

- (1) Your age (in years) \_\_\_\_\_
- (2) Education: (a) Last academic degree \_\_\_\_\_  
(b) Professional degree or diploma \_\_\_\_\_
- (3) Number of levels below the General Manager \_\_\_\_\_
- (4) When did you get first job? Year \_\_\_\_\_
- (5) How many times have you changed the organizations? \_\_\_\_\_
- (6) How many promotions have you received? \_\_\_\_\_  
(since your first job)
- (7) How many years have you been with present organization? \_\_\_\_\_ years.
- (8) How many years have you been in the present position? \_\_\_\_\_
- (9) How many people directly report to you? \_\_\_\_\_  
(No. of immediate subordinates)
- (10) Monthly income (including salary, allowances etc.)  
Check ONE:
  - (a) Under Rs. 1500
  - (b) Rs. 1501 - 2000
  - (c) Rs. 2001 - 2500
  - (d) Rs. 2501 - 3000
  - (e) Rs. 3001 - 3500
  - (f) Rs. 3501 - 4000
  - (g) Rs. more than 4000
- (11) In how many organizations have you worked so far? \_\_\_\_\_  
How do you see yourself in your work?
 

(12) Successful	5	4	3	2	1	unsuccessful.
(13) Important	5	4	3	2	1	not important.
(14) Doing my best	5	4	3	2	1	not doing my best.

- (15) All in all to what extent do you feel that you have achieved success in your career?

To a very little extent      1      2      3      4      5      To a great extent

- (16) How much emphasis was there on independence training/ fostering independent personality in the family/ environment you are brought up. (Check one).

- (a) Very much
- (b) Much
- (c) Moderate
- (d) Little
- (e) Not at all

Form 3 : Locus of control questionnaire

Please indicate your agreement or disagreement with the following statements

- 1. Means Strongly Disagree
- 2. Means Disagree
- 3. Means Neutral
- 4. Means Agree
- 5. Means Strongly agree

- \_\_\_ (1) Whether or not I get to be a leader depends mostly on my ability.
- \_\_\_ (2) To a great extent my life is controlled by accidental events.
- \_\_\_ (3) What happens in my life is mostly determined by powerful people.
- \_\_\_ (4) Whether or not I get into an accident depends mostly on my skill and ability.
- \_\_\_ (5) When I make plans, I am almost certain to make them work.
- \_\_\_ (6) Many times there is no chance of protecting myself from bad luck.
- \_\_\_ (7) When I get what I want, it's usually because I am lucky.

- \_\_\_ (8) Even though I might have good ability, I will never become a leader without seeking the approval of those in position of power.
- \_\_\_ (9) How many friends I have depends upon how nice a person I am.
- \_\_\_ (10) I have found that what is going to happen will happen.
- \_\_\_ (11) My life is mostly controlled by people more powerful than me.
- \_\_\_ (12) Whether or not I get into an accident is mostly a matter of luck.
- \_\_\_ (13) People like me have little chance of protecting our personal interests or welfare from forceful social groups.
- \_\_\_ (14) To get what I want I have to please the people above me.
- \_\_\_ (15) It is not a good idea for me to plan too far ahead because too many things depends on luck.
- \_\_\_ (16) Becoming a leader depends on whether I am lucky enough to be in the right place at the right time.
- \_\_\_ (17) If important people didn't like me, I probably wouldn't make many friends.
- \_\_\_ (18) I can pretty much control what will happen in my life.
- \_\_\_ (19) It is usually upto me to protect my personal interests.
- \_\_\_ (20) Whether or not I get in accidents depends mostly on the people around me.
- \_\_\_ (21) When I get what I want, it is usually because I worked hard for it.
- \_\_\_ (22) In order for my plans to work, I make sure that they fit in with plans of people above me.
- \_\_\_ (23) My life is mostly determined by my own actions.
- \_\_\_ (24) How many friends I have is mostly a matter of luck.



Form 4 : Entrepreneurial orientation questionnaire

About your personal orientation:

- |                            |
|----------------------------|
| 1. Means Strongly Disagree |
| 2. Means Disagree          |
| 3. Means Neutral           |
| 4. Means Agree             |
| 5. Means Strongly Agree    |

- \_\_\_\_\_ (1) Given that professional situations vary from low and moderate to high risk, I prefer to work in the situation of moderate risk.
- \_\_\_\_\_ (2) I prefer to work in a situation where feedback of performance is provided.
- \_\_\_\_\_ (3) I prefer to work in a situation where individual responsibility is given to me rather than where responsibility may not be pin-pointed.
- \_\_\_\_\_ (4) I prefer competitive work set up than a cooperative one.
- \_\_\_\_\_ (5) I prefer to work where full freehand is given to me.
- \_\_\_\_\_ (6) I want to follow sure and tested approach rather than a novel and untested approach. (R)
- \_\_\_\_\_ (7) I don't like to have much responsibility in my job. (R)
- \_\_\_\_\_ (8) Working hard is the best strategy to rise to the top.
- \_\_\_\_\_ (9) I generally try to look for new possibilities to optimize the output.

Form 5 : Work ethic questionnaire

Please indicate your agreement or disagreement with the following.

- |                            |
|----------------------------|
| 1. Means Strongly Disagree |
| 2. Means Disagree          |
| 3. Means Neutral           |
| 4. Means Agree             |
| 5. Means Strongly Agree    |

- \_\_\_ (1) When the work is finished a person should forget his job and enjoy himself.
- \_\_\_ (2) Hard work makes man a better person.
- \_\_\_ (3) The main purpose of mans' job is to provide him with the means for enjoying his free time.
- \_\_\_ (4) Wasting time is as bad as wasting money.
- \_\_\_ (5) Whenever possible a person should relax and accept life as it is, rather than always trying for unreachable goals.
- \_\_\_ (6) A good indication of man's worth is how well he does his job.
- \_\_\_ (7) If all other things are equal, it is better to have a job with a lot of responsibility than with little responsibility.
- \_\_\_ (8) People who 'do things the easy way' are smart ones.

#### Form 6 : Organizational climate questionnaire

Following statements describe some characteristics of work-organization. Please read each statement carefully and decide: To what extent each item is true in case of your organization, and put the number of your choice on the small line to the left of each statement.

- |   |
|---|
| 1. Means True To Almost No Extent<br>2. Means True To A Small Extent<br>3. Means True To Some Extent<br>4. Means True To A Great Extent<br>5. Means True To Very Great Extent |
|---|

- \_\_\_ (1) Achieving goals or target set or excelling them is the main concern here.
- \_\_\_ (2) Relevant information is made available to all those who need it, and can use such information for achieving high performance.
- \_\_\_ (3) Our organization has a rigid set of rules and norms which we are supposed to follow strictly.

- \_\_\_\_\_ (4) Here rewards and promotions are given on the basis of the merit of the candidate.
- \_\_\_\_\_ (5) Those who can achieve results are highly trusted.
- \_\_\_\_\_ (6) Each post has clearly defined sphere of roles in legal sense.
- \_\_\_\_\_ (7) Knowledge and expertise are recognized and rewarded here.
- \_\_\_\_\_ (8) Our organization discourages informal and personal relations.
- \_\_\_\_\_ (9) Any job or policy related information is communicated to employees through established channels.
- \_\_\_\_\_ (10) The main concern of managers here is to develop specialized competence and expertise.
- \_\_\_\_\_ (11) Officials and employees are subject to strict systematic discipline and control in the conduct of their official jobs.
- \_\_\_\_\_ (12) The specialists and the experts are highly trusted here.
- \_\_\_\_\_ (13) Most of my normal daily activities in the organization have rules and procedures stating the way I am to perform them.
- \_\_\_\_\_ (14) The main concern of people here is to help each other develop greater skills for advancement of the organization.
- \_\_\_\_\_ (15) People are constantly watched for obeying all the rules pertaining to their jobs.
- \_\_\_\_\_ (16) People here have high concern for one another and help each other spontaneously when such help is needed.
- \_\_\_\_\_ (17) Employees have to ask their superiors before they do almost anything important.
- \_\_\_\_\_ (18) In resolving conflicts appeal is made to principles and organisational ideals.
- \_\_\_\_\_ (19) Even for small matters higher ups are consulted for a final answer.

- \_\_\_ (20) Trusting and friendly relations are highly valued here.
- \_\_\_ (21) There can be little action on my decision until a senior manager approves of it.
- \_\_\_ (22) The ability to get along well is highly rewarded here.
- \_\_\_ (23) Instructions are issued here by bosses and are expected to be carried out without delay and protest.
- \_\_\_ (24) Sanctions for violating rules and procedures of the organization are severe.
- \_\_\_ (25) Consolidating one's own personal position and influences seem to be the main concern here.
- \_\_\_ (26) In a conflict situation those who are stronger force their point of view on those who are weaker.
- \_\_\_ (27) The maintenance of organizational norms and policies are the main criteria of success.
- \_\_\_ (28) The job assignment in this organization is clearly defined and logically structured.
- \_\_\_ (29) Our management does not rely heavily on individual judgements, almost everything is double checked.
- \_\_\_ (30) People in this organization are not likely to express their feelings openly on important matters.
- \_\_\_ (31) There are rules and regulations for handling any kind of problem which may arise in making most of the decisions.
- \_\_\_ (32) Superiors often seek advice from their subordinates before decisions are made.
- \_\_\_ (33) There is not enough reward and recognition in this organization for good job.
- \_\_\_ (34) In this organization people are rewarded in proportion to the excellence in their job performance.
- \_\_\_ (35) People in this organization don't really trust each other.
- \_\_\_ (36) Philosophy of our management emphasizes human factors (i.e., how people feel, etc.).

- \_\_\_\_ (37) Around here there is a feeling of pressure to improve the personal and group performance.
- \_\_\_\_ (38) Management believes that if the people are happy, productivity will take care of itself.
- \_\_\_\_ (39) In this organization people do not seem to take much pride in their performance.
- \_\_\_\_ (40) People in this organization tend to be cold and aloof towards each other.
- \_\_\_\_ (41) Decision making in this organization is too cautious for maximum effectiveness.
- \_\_\_\_ (42) Excessive rules and administrative details make it difficult for new and original ideas to receive consideration.
- \_\_\_\_ (43) The organization willingly takes a chance on a good idea.
- \_\_\_\_ (44) The organization prefers novel than slow safe and sure approach.
- \_\_\_\_ (45) The organization encourages general orientation towards risk-taking.
- \_\_\_\_ (46) The organization takes some pretty big risks occasionally to keep ahead of the competition.
- \_\_\_\_ (47) Employees are free to set their own performance goals in this organizations.
- \_\_\_\_ (48) Union-management relations are cordial.
- \_\_\_\_ (49) Management does every thing to ensure the well-being of the employees.

Form 7 : Leadership style questionnaire

Kindly describe the person to whom you report directly (your supervisor/boss) using following rating scales.

True To Almost No Extent	... 1
True To A Small Extent	... 2
True To Some Extent	... 3
True To A Great Extent	... 4
True To A Very Great Extent	... 5

- \_\_\_\_ (1) He emphasizes obedience and respect for authority.
- \_\_\_\_ (2) He cares for the reputation of his organization.
- \_\_\_\_ (3) He appreciates those who are loyal.
- \_\_\_\_ (4) He is father type caring yet strict.
- \_\_\_\_ (5) He is task and efficiency oriented.
- \_\_\_\_ (6) He is a realist and wants to get the job done any how.
- \_\_\_\_ (7) He asserts and provides specific direction and supervision to his subordinates.
- \_\_\_\_ (8) He is people oriented.
- \_\_\_\_ (9) Though he is quite concerned with efficiency, he cares more for his subordinates and helps them to develop their individual worth and interest in the work.

### Form 8 : Job characteristics questionnaire

Some job characteristics are given below. Please read them carefully and describe (in the respective columns) in what amount they are present in your job, in what amount they should be there, and how much importance do they have for you choosing following rating scales.<sup>a</sup>

- |                        |
|------------------------|
| 1. Means None          |
| 2. Means Just A Little |
| 3. Means Moderate      |
| 4. Means Great         |
| 5. Means Very Great    |

Variables	How much is there (Existing)	How much should be there (Desired)	Importance for you
-----------	------------------------------------	---	-----------------------

1. Freedom to choose your own method of working.

---

2. Amount of responsibility  
you are given.

---

3. The recognition for  
good work.

---

4. Being able to judge  
your work performance,  
right away, when  
actually doing the  
job.

---

5. Opportunities to use  
abilities.

---

6. Amount of variety in  
your job.

---

7. Your chance of  
promotion

---

8. The attention paid to  
your suggestions

---

9. Feeling of doing some  
thing worth while.

---

10. Doing a whole and  
complete piece of  
work.

---

a The calculation of raw scores for ten job characteristics  
were done through following formula:

$$JC = (\text{How much is there} - \text{How much should be there}) \times \text{Importance} + 20$$

$$= (\text{Actual characteristics} - \text{Desired characteristics}) \times \text{Importance} + 20$$

Form 9 : Strain questionnaire

Following statements are related to some reactions to the job and organization. Choosing an appropriate rating describe: How frequently each of them occur in case of your job/organization.

- |   |
|---|
| <ol style="list-style-type: none"><li>1. Means Never</li><li>2. Means Rarely</li><li>3. Means Some Times</li><li>4. Means Rather Often</li><li>5. Means Nearly All The Time</li></ol> |
|---|

- \_\_\_ (1) My efforts to do my job efficiently are blocked by others.
- \_\_\_ (2) A lot of petty and arbitrary rules are there at work.
- \_\_\_ (3) I run into obstacles while trying to get things done.
- \_\_\_ (4) There are occasions when my job would be easier if people were more cooperative.
- \_\_\_ (5) The system at work prevents me from doing things in more efficient way.
- \_\_\_ (6) I feel thwarted in my efforts to do a good job.
- \_\_\_ (7) There are times at work when things are really get my back up.
- \_\_\_ (8) I feel quite frustrated over things that happens at work.
- \_\_\_ (9) Things annoy me at work.
- \_\_\_ (10) I have found it difficult to keep my temper at work.
- \_\_\_ (11) I just have to put up with other people's incompetence.
- \_\_\_ (12) I have to be quite aggressive to survive in my job.
- \_\_\_ (13) There are times when I would like to be able to tell someone what I think of them.



- \_\_\_\_\_ (14) I feel that I should blame them who really deserve it.
- \_\_\_\_\_ (15) I have felt fidgety as a result of my job.
- \_\_\_\_\_ (16) Working here makes it hard to spend enough time with my family.
- \_\_\_\_\_ (17) My job gets to me more than it should. (R)
- \_\_\_\_\_ (18) I spend so much time at work, I miss opportunities for trivial things.
- \_\_\_\_\_ (19) My job troubles me.
- \_\_\_\_\_ (20) Working here leaves me little time for other activities.
- \_\_\_\_\_ (21) When I think about my job I get a tight feeling in my chest.
- \_\_\_\_\_ (22) I get the feeling that I am married to the organization.
- \_\_\_\_\_ (23) I have too much work and too little time to do it.
- \_\_\_\_\_ (24) I feel guilty when I take time off from my job. (R)
- \_\_\_\_\_ (25) I feel like I never have a day off.
- \_\_\_\_\_ (26) Too many people at my level in the company get burned out by the job demands.
- \_\_\_\_\_ (27) I feel downhearted and blue.
- \_\_\_\_\_ (28) I get tired for no reasons.
- \_\_\_\_\_ (29) I find myself restless and can't keep still.
- \_\_\_\_\_ (30) I find it easy to do things I used to do. (R)
- \_\_\_\_\_ (31) My mind is as clear as it used to be. (R)
- \_\_\_\_\_ (32) I am more irritable than usual.
- \_\_\_\_\_ (33) I still enjoy the things I used to. (R)
- \_\_\_\_\_ (34) I feel I am useful and needed. (R)
- \_\_\_\_\_ (35) I feel that time is passing too quickly for me to accomplish the things I desire.

Form 10 : Questionnaire of coping strategies

Some of the ways of handling the problems of work situation are given below. Please indicate how often do you use each of these.

Never	... 1
Rarely	... 2
Occasionally	... 3
Often	... 4
Very Often	... 5

- \_\_\_ (1) Considered several alternatives for handling the problems.
- \_\_\_ (2) Draw on my past experiences, I was in a similar situation before.
- \_\_\_ (3) Try to step back from the situation and be more objective.
- \_\_\_ (4) Think over the situation in my mind to try and understand it.
- \_\_\_ (5) I drop what I am doing for a while and come back refreshed.
- \_\_\_ (6) I concentrate on routine work so that I can cool down.
- \_\_\_ (7) Try to find out more about the problem.
- \_\_\_ (8) Talk to relevant person about my problem at work.
- \_\_\_ (9) Seek help from persons or groups with similar experiences.
- \_\_\_ (10) I set priorities for work.
- \_\_\_ (11) Make plan of action and follow it.
- \_\_\_ (12) Take things a day at a time, one step at a time.
- \_\_\_ (13) Try not to act too hastily or follow my first hunch.
- \_\_\_ (14) I know what has to be done and try harder to make things work.

- \_\_\_\_ (15) Bargain or compromise to get something positive from the situation.
- \_\_\_\_ (16) Try to take immediate action on the basis of my present understanding of the situation.
- \_\_\_\_ (17) I concentrate on actions which can improve my work situation.
- \_\_\_\_ (18) I don't let the problem go until I solve it.
- \_\_\_\_ (19) Ask for guidance.
- \_\_\_\_ (20) I utilize my time efficiently.

Form 11 : Organizational effectiveness questionnaire

Please rate your, your supervisor/boss's, and your organization's effectiveness by selecting an appropriate number and write it on the small line in front of the statement.

- |                               |
|-------------------------------|
| 1. Means Not Effective At All |
| 2. Means Not Too Effective    |
| 3. Means Fairly Effective     |
| 4. Means Very Effective       |
| 5. Means Extremely Effective  |

How effective is your supervisor/boss at:

- \_\_\_\_ (a) Making things run smoothly?
- \_\_\_\_ (b) Producing services or products?
- \_\_\_\_ (c) Coping with unexpected problems?
- \_\_\_\_ (d) Arranging things so that you enjoy the work?
- \_\_\_\_ (e) Helping you get things done on the job.

How effective are you at:

- \_\_\_\_ (a) Getting things done on the job.
- \_\_\_\_ (b) Helping you get things done on the job.
- \_\_\_\_ (c) Arranging for work to go as smoothly as possible.

\_\_\_\_\_ (d) Coping with unexpected problem.

How effective is your organization as a whole at:

- \_\_\_\_\_ (a) Running smoothly with minimum of confusion.  
 \_\_\_\_\_ (b) Getting things done it is supposed to do.  
 \_\_\_\_\_ (c) Helping people who work there get their job done.  
 \_\_\_\_\_ (d) Coping with unexpected problems.

\_\_\_\_\_ How effective would you say your organization is overall?

Form 12: Organizational commitment questionnaire

Please indicate your agreement or disagreement with the following statements.

- |  |
|--|
| 1. Means Strongly Disagree<br>2. Means Disagree<br>3. Means Neutral<br>4. Means Agree<br>5. Means Strongly Agree |
|--|

- \_\_\_\_\_ (1) I am quite proud to be able to tell people who it is I work for.
- \_\_\_\_\_ (2) I some times feel like leaving the employment for good. (R)
- \_\_\_\_\_ (3) I am not willing to put myself out just to help the organization. (R)
- \_\_\_\_\_ (4) Even if the organization is not doing well financially, I would be reluctant to change to another employer.
- \_\_\_\_\_ (5) I feel myself to be part of the organization.
- \_\_\_\_\_ (6) In my work I like to feel I am making some effort not just for myself but for the organization as well.
- \_\_\_\_\_ (7) The offer of a bit more money with another employer would not seriously make me think of changing my job.
- \_\_\_\_\_ (8) I would not recommend a close friend to join our organization. (R)

- \_\_\_\_\_ (9) To know that my own work had made a contribution to the good of the organization would please me.

Form 13 : Job satisfaction questionnaire

Please indicate: How satisfied are you with the following by using appropriate rating scale.

- |   |
|---|
| <ol style="list-style-type: none"><li>1. Means Very Dissatisfied.</li><li>2. Means Dissatisfied</li><li>3. Means Neutral</li><li>4. Means Satisfied</li><li>5. Means Very Satisfied</li></ol> |
|---|

How satisfied are you with

- \_\_\_\_\_ (1) Physical work conditions.
- \_\_\_\_\_ (2) The freedom to choose your own method of working.
- \_\_\_\_\_ (3) Your fellow workers.
- \_\_\_\_\_ (4) The recognition you get from good work.
- \_\_\_\_\_ (5) Your immediate boss.
- \_\_\_\_\_ (6) Amount of responsibility you are given.
- \_\_\_\_\_ (7) Opportunities to use your abilities.
- \_\_\_\_\_ (8) Industrial relations with management and workers
- \_\_\_\_\_ (9) Your rate of pay.
- \_\_\_\_\_ (10) Your chances of promotion
- \_\_\_\_\_ (11) The way your firm is managed.
- \_\_\_\_\_ (12) The attention paid to suggestions you make
- \_\_\_\_\_ (13) Your hours of work
- \_\_\_\_\_ (14) The amount of variety in your job
- \_\_\_\_\_ (15) Your job security
- \_\_\_\_\_ (16) Opportunity to help others with personal problems at work.

- \_\_\_\_ (17) Chances to learn new things.
- \_\_\_\_ (18) Power and prestige in the job.
- \_\_\_\_ (19) Opportunity to make decisions.
- \_\_\_\_ (20) Opportunity to achieve something worthwhile.
- \_\_\_\_ (21) Now taking every thing into account, how do you feel about the job as a whole.

Please indicate your agreement or disagreement with the following by choosing appropriate number.

- |  |
|--|
| 1. Means Strongly Disagree<br>2. Means Disagree<br>3. Means Neutral<br>4. Means Agree<br>5. Means Strongly Agree |
|--|

Form 14 : Intend to leave questionnaire

- \_\_\_\_ (1) I intend to leave this organization as soon as possible.

Form 15 : Alienation questionnaire

- \_\_\_\_ (1) In this organization I feel alienated.

Form 16 : Sense of power questionnaire

- \_\_\_\_ (1) I have a sense of power in this organization.

---

(R) stands for a reversed item, where a high score would mean low magnitude of the construct.

Summaries of Factor Analyses Results

Table 24

Factor Analysis of Stress Responses

Sl. No.	Factor Pattern									
	Factor Loadings									
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10
22	26	-.11	24	-.06	-.20	-.18	18	24	-.02	-.01
28	64	-.03	-.00	07	03	03	-.01	-.07	-.03	06
29	63	-.11	05	08	14	-.02	-.01	-.04	-.18	-.02
32	66	-.09	02	03	-.04	20	06	04	04	04
33	76	07	-.10	-.07	-.10	-.02	-.07	-.10	-.02	10
14	-.01	49	-.01	-.01	-.34	-.03	03	16	-.13	-.19
15	14	61	03	04	-.06	-.26	-.01	16	04	-.09
16	-.04	71	13	-.03	05	-.03	13	-.09	03	-.14
17	-.10	69	01	-.10	-.26	10	07	-.01	-.02	-.07
18	-.16	59	-.14	-.08	00	17	-.00	04	07	05
19	-.11	-.05	78	01	07	17	02	03	-.02	05
20	-.09	05	93	01	-.03	11	04	-.16	-.02	01
21	05	09	89	04	12	-.10	-.20	01	07	04
1	-.09	-.19	-.01	71	-.10	04	-.03	14	-.00	-.02
2	06	-.06	-.06	60	-.03	14	-.06	11	-.11	21
3	16	04	03	66	01	-.06	30	-.23	11	-.08
4	-.02	07	15	47	-.02	-.06	-.06	10	-.07	19
5	-.04	-.03	-.06	03	-.80	02	01	07	01	-.16
8	-.07	07	-.07	13	-.90	12	-.14	-.13	09	03
9	14	-.01	02	-.10	-.53	-.03	19	10	-.11	-.11
11	07	38	-.00	11	-.46	-.14	04	03	-.05	21
12	10	35	-.06	02	-.48	-.27	06	01	-.20	13
24	32	04	25	08	-.14	46	-.07	18	02	-.09
25	11	02	14	02	-.05	87	16	-.03	-.06	03
26	32	05	31	02	-.01	45	-.09	26	-.08	01
6	-.06	17	-.10	13	17	-.02	64	-.02	15	-.06
10	02	03	-.05	-.03	-.11	10	66	16	-.07	08
30	-.09	10	-.05	10	12	09	-.01	56	-.03	-.12
31	-.08	-.06	-.04	02	-.09	-.04	14	79	12	08
23	22	22	-.10	03	02	-.02	-.20	11	45	07
27	19	-.02	02	08	-.12	-.02	-.13	-.10	-.36	06
34	15	07	-.06	-.02	05	06	-.12	04	-.67	05
35	17	34	-.07	29	08	-.02	-.07	08	-.43	06
7	09	-.09	09	07	02	-.10	-.03	04	13	79
13	-.03	-.04	01	-.01	08	09	10	-.08	-.09	79

(contd.....)

Sl. No. indicate the serial number of items in the questionnaire.  
 Decimal point have been omitted from the factor loadings.

(Contd.....)

Sl. No.	Factor Structure									
	Factor Loadings									
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10
22	33	-.03	28	06	-.30	-.11	19	29	-.11	01
28	67	-.04	15	23	-.08	06	-.10	-.02	-.21	24
29	67	-.14	21	24	03	04	-.10	-.03	-.33	19
32	68	-.08	21	21	-.14	24	-.01	12	-.15	19
33	77	10	03	13	-.23	-.03	-.16	-.04	-.21	26
14	06	62	-.07	00	-.52	-.07	14	30	-.13	-.26
15	15	68	-.06	08	-.29	-.29	05	26	03	-.13
16	-.08	69	02	-.06	-.12	-.07	18	01	07	-.25
17	-.07	75	-.09	-.10	-.42	03	15	14	-.01	-.21
18	-.19	59	-.22	-.10	-.10	09	03	11	14	-.09
19	07	-.17	80	08	12	33	01	07	-.08	08
20	11	-.09	92	06	03	27	05	-.08	-.10	04
21	24	-.04	87	12	13	08	-.20	05	-.03	14
1	11	-.12	07	70	-.08	09	01	22	-.08	16
2	30	-.05	07	70	-.57	18	-.10	18	-.23	40
3	23	06	08	64	-.04	-.05	31	-.11	02	06
4	21	07	19	55	-.07	00	-.08	17	-.16	32
5	07	21	-.08	01	-.80	-.03	15	23	-.07	-.21
8	11	27	-.09	13	-.84	04	-.03	07	-.04	02
9	21	15	04	-.05	-.62	-.05	27	22	-.18	-.16
11	25	49	-.04	21	-.59	-.18	07	17	-.16	19
12	25	49	-.12	11	-.64	-.33	10	13	-.28	10
24	43	06	41	21	-.21	53	-.06	31	-.13	01
25	19	-.05	34	11	-.04	90	12	09	-.16	05
26	46	02	48	19	-.10	55	-.12	36	-.21	12
6	-.19	17	-.13	08	07	-.06	65	01	22	-.20
10	01	10	-.00	04	-.23	08	66	22	-.06	-.07
30	-.07	16	-.01	12	-.01	13	04	56	02	-.15
31	-.03	08	-.01	10	-.23	01	19	80	13	-.01
23	14	25	-.11	06	-.01	-.05	-.21	15	40	08
27	34	-.02	09	17	-.17	01	-.16	-.07	-.45	19
34	31	04	04	11	-.08	09	-.18	03	-.70	17
35	35	34	-.00	41	-.12	00	-.11	14	-.49	20
7	28	-.17	14	28	07	-.07	-.19	00	01	84
13	15	-.17	07	19	13	10	-.07	-.13	-.17	79

(Contd.....)

Sl. No.. indicate the serial number of items in the questionnaire.  
 Decimal points have been omitted from the factor loadings.



(Contd.....)

Factor	Eigen Values		Percentage of Variance	
	IT	WIT	IT	WIT
1	4.97	5.38	24.3	15.4
2	4.75	5.11	23.2	14.6
3	2.58	2.88	12.6	8.2
4	1.71	2.15	8.3	6.1
5	1.48	1.88	7.2	5.4
6	1.21	1.59	5.9	4.5
7	1.10	1.53	5.4	4.4
8	1.02	1.47	5.0	4.2
9	.89	1.29	4.3	3.7
10	.79	1.20	3.8	3.4

IT = (With) Iterations.

WIT = Without Iterations.

Table 25

## Factor Analysis Results of Biodata Responses

Sl. No.	Factor Pattern				Factor Structure				
	Factor loadings				Factor loadings				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 1	Factor 2	Factor 3	Factor 4	
3	-23	-02	-15	20	39	-16	-26	37	
12	79	-01	01	05	77	17	18	-40	
13	85	01	01	-01	86	22	22	-49	
14	78	-01	14	-01	82	20	32	-48	
15	85	-06	-14	03	78	13	05	-39	
16	35	14	-00	-14	46	27	12	-39	
5	03	91	04	-04	28	94	12	-38	
11	00	97	-03	-07	27	100	06	-40	
1	04	33	74	-09	35	42	80	-40	
4	02	29	87	-07	34	38	91	-39	
6	17	40	47	-11	44	52	57	-46	
7	04	-30	56	-27	25	-16	61	-32	
8	01	-09	46	12	03	-10	43	04	
2	09	07	-24	-61	39	28	-08	-62	
9	02	-01	08	-29	20	10	15	-31	
10	-01	07	04	-96	56	41	27	-99	
Eigen Values					IT	5.39	1.81	1.64	.72
					WIT	5.68	2.09	1.94	1.13
Percentage of Variance					IT	56.4	18.9	17.2	7.5
					WIT	35.5	13.1	12.1	7.0

Sl. No. indicate the serial number of the items in the questionnaire.

Decimal points have been omitted from the factor loadings.

IT = (With) Iterations.

WIT = Without Iterations.

Table 26

Factor Analysis of Locus of Control Responses

Sl. No.	Factor Pattern							
	Factor Loadings							
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
10	36	-16	12	17	28	04	01	-11
12	44	08	13	20	-10	24	-11	-04
13	42	18	15	34	-06	-37	-25	04
14	45	11	02	26	08	-28	01	-05
15	80	-01	00	-13	-03	02	05	04
16	63	-14	05	02	-06	02	-18	07
18	-07	80	05	-05	02	-11	-03	-02
19	09	41	-08	-02	10	15	-00	14
23	03	38	-00	-08	-13	38	-03	06
2	-37	-02	85	-02	-00	-04	-10	17
3	-02	07	76	07	02	09	02	-22
6	07	-22	11	50	04	10	-15	12
7	02	-06	11	78	-11	08	13	07
8	-10	00	-01	69	-00	-05	00	-05
1	-09	12	-22	02	55	13	-08	-04
4	00	-02	12	-10	44	-04	01	07
11	27	-12	22	09	30	-05	-11	-04
22	00	01	08	13	21	44	-08	07
20	20	-04	18	13	-12	16	-40	05
21	-19	15	00	-14	12	-08	-55	19
24	18	-06	01	04	00	12	-46	-08
5	09	03	01	04	02	03	-15	59
9	01	16	-00	06	22	09	20	31
17	23	01	08	16	14	05	-16	-31
<hr/>								
Eigen Values	IT 5.33	1.92	.97	.76	.70	.68	.52	.48
	WIT 5.19	2.50	1.46	1.28	1.23	1.18	1.04	1.00
<hr/>								
% of Varia- nce	IT 46.9	16.9	8.5	6.7	6.2	6.0	4.5	4.2
	WIT 24.1	10.4	6.1	5.4	5.1	4.9	4.3	4.2

Contd.....

Sl. No.	Factor Structure							
	Factor Loadings							
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
10	53	-25	-43	46	29	05	-19	-16
12	62	-03	40	46	-02	28	-33	-07
13	67	-01	47	56	03	-28	43	-04
14	55	-04	29	44	10	-23	-15	-11
15	72	-07	26	21	00	04	-17	-02
16	72	-20	38	37	-01	05	-39	-03
18	-16	79	-15	-22	14	02	-03	25
19	-00	50	-13	-11	20	24	-06	31
23	-04	45	-10	-14	-03	-44	-07	22
2	29	-14	82	30	10	-01	-20	16
3	33	-15	77	42	08	09	-17	-19
6	41	-29	45	64	10	14	-30	-01
7	37	-23	43	81	-06	09	-03	-10
8	20	-15	25	64	01	-03	-06	-17
1	-13	27	-19	-09	56	20	-08	14
4	02	07	13	-03	46	01	-05	16
11	46	-18	45	37	32	-01	-28	-06
22	14	09	20	20	29	49	-20	16
20	46	-09	41	36	-03	22	-54	02
21	-12	28	-03	-20	22	04	-49	33
24	36	-08	24	23	05	16	-54	-08
5	11	22	09	01	17	15	-23	-61
9	-06	29	-03	-04	30	16	13	39
17	41	-13	29	38	14	06	-28	-31

Sl. No. indicate the serial number of the items in the questionnaire.

Decimal points have been omitted from the factor loadings.

IT = (With) Iterations.

WIT = Without Iterations.

Factor Analysis of Entrepreneurial Orientation Scale Responses

Sl. No.	Factor Pattern			Factor Structure		
	Factor Loadings			Factor Loadings		
	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
1	58	20	-06	52	08	03
2	63	-12	02	66	-26	14
3	58	-11	01	60	-23	12
4	69	12	-02	66	-02	10
9	57	-33	11	66	-46	23
7	14	71	10	00	67	08
8	28	-40	03	37	-46	10
5	37	-19	43	48	-29	51
6	-07	90	45	-01	08	43
<hr/>						
Eigen Value			IT	2.45	.75	.37
			WIT	3.02	1.32	1.08
Percentage of			IT	68.7	21.0	10.3
Variance			WIT	33.6	14.7	12.1

Sl.No. indicate the serial number of the items in the questionnaire.

Decimal points have been omitted from the factor loadings.

IT = (With) Iterations.

WIT = Without Iterations.

Table 28

Factor Analysis Results of Work Ethic Responses

Sl. No.	Factor Pattern		Factor Structure	
	Factor loadings		Factor loadings	
	Factor 1	Factor 2	Factor 1	Factor 2
2	75	-21	72	-13
4	81	15	80	-06
6	40	14	41	18
7	41	14	42	18
1	-01	71	06	71
3	-01	63	06	63
5	-04	43	01	43
8	04	28	07	29
<hr/>				
Eigen values		IT	1.53	1.25
		WIT	2.03	1.88
Percentage of Variance		IT	55.0	45.0
		WIT	25.4	23.4

Sl. No. indicate the serial number of the items in the questionnaire.

Decimal points have been omitted from the factor loadings.

IT = (With) Iterations.

WIT = Without Iterations.

Table 29

Factor Analysis Results of Climate Scale Responses

		Factor Pattern													
		Factor Loadings													
Sl. No.		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Factor 13	Factor 14
14	55	03	03	10	-06	-02	03	-10	-17	04	-06	17	-08	-09	-09
16	44	-02	-02	08	-02	-07	-18	02	-25	-14	-06	-25	09	-09	-04
20	-36	29	29	-05	02	33	09	16	12	-14	-01	33	-03	-13	02
4	13	40	40	04	00	-10	-02	-14	-30	-14	09	-02	09	05	-28
6	-16	62	62	-06	-03	00	05	-04	-00	-04	-14	-00	-21	22	-11
8	01	60	06	06	02	06	-07	06	-01	-04	-02	-05	29	12	07
11	23	43	-08	-08	00	-24	07	03	18	-14	-23	21	03	20	-18
15	09	49	-10	-10	-08	00	05	-01	-07	-08	01	34	09	07	13
24	09	35	-01	-01	-05	25	01	-03	01	05	-25	08	-21	13	-14
40	-19	40	22	01	22	-09	-21	06	20	26	-13	03	-02	-20	-05
43	-02	-01	-01	67	21	-19	-06	10	-11	08	04	-01	-28	-01	05
44	-03	-02	78	78	-04	-11	-16	03	-12	-00	-05	-08	12	-17	-14
45	03	03	92	92	-03	01	18	02	-04	-01	-03	-04	-01	12	06
46	05	01	83	83	08	17	15	-16	11	-12	01	08	06	-00	-04
37	05	-09	-04	-04	49	02	10	-43	05	09	-30	-18	13	01	-15
39	-02	26	-13	-13	41	-05	-03	22	-05	26	07	-04	06	-07	15
47	-09	-08	25	68	03	03	-13	-19	-02	-10	11	16	-02	-01	-01
17	-13	14	-11	-08	-08	40	-38	02	-00	-01	-00	-01	01	19	01
19	-34	-00	-01	-01	-19	45	-33	15	-11	-01	07	14	02	08	09
26	04	-09	-02	-02	10	62	06	-11	01	40	02	07	-02	04	10
21	10	-07	03	03	-01	-02	-36	00	01	13	06	16	25	-03	08
41	-01	02	-20	-19	-19	01	-69	-03	-02	01	-11	04	00	13	-00
47	18	25	06	13	13	-09	-10	-62	-05	03	-08	-25	-03	-09	-08
49	-04	-05	01	01	01	05	00	-81	00	-03	00	03	-06	-05	-02
1	10	-03	14	14	12	02	08	10	-58	02	-12	-03	-02	-03	-08
2	06	06	-04	-04	-10	06	-11	-10	-63	04	-03	-08	-06	-13	-20

contd....

(Contd.....)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
32	-15	-03	18	-04	-13	-12	-30	-35	04	23	09	06	-05	-06
25	-05	-11	-02	-03	14	-10	-02	-02	59	-05	-06	-03	-00	-11
33	15	12	-12	20	-03	-03	12	01	38	-09	01	13	-05	34
35	12	17	-16	-01	07	21	16	01	47	16	01	11	-10	05
13	-28	03	-01	-31	-08	14	-18	-08	06	-65	06	13	06	-04
27	07	12	06	09	14	-21	-05	-25	-16	-42	-04	-06	10	-01
28	-12	23	-10	-02	-02	21	-10	-22	00	-30	27	-26	11	08
31	17	02	01	03	-07	-29	01	-02	01	-57	27	-03	07	03
3	11	31	02	-13	10	07	13	-13	-01	-21	35	02	18	-05
20	14	-03	-02	26	20	02	03	-23	-21	-04	-30	03	-19	-04
29	07	00	-11	19	13	-21	12	07	-08	-20	60	-00	-03	-16
48	13	-00	31	-25	13	-22	-03	09	-05	06	-12	-43	-22	-13
49	18	02	04	05	13	09	-37	-08	-08	-04	09	-44	05	09
9	-00	06	-05	04	10	-00	14	-05	-28	-10	-10	-05	56	-19
18	22	-01	15	02	28	12	07	-07	-04	-22	-13	-03	40	-11
23	07	17	13	-09	14	-19	06	22	16	-10	-00	02	58	-08
5	07	18	01	05	-06	03	-04	-16	05	08	-01	-15	06	-65
7	22	-13	-14	06	-02	25	-06	-31	-03	03	09	-11	14	-44
10	26	-06	-01	00	09	26	-11	-24	-10	-07	01	08	08	-34
12	-09	-05	11	-05	-08	-02	-02	-10	09	-08	05	07	05	-73
22	18	06	-10	02	16	-07	-17	01	-23	-02	03	33	-12	-44
34	29	02	-04	09	09	11	-25	01	-01	-02	-17	-08	04	-33
42	-24	20	-05	04	16	-03	10	-18	-02	-31	20	19	12	32
E. IT	8.13	6.12	2.59	2.28	1.62	1.51	1.36	1.04	0.97	0.83	0.75	0.75	.65	.57
V. WIT	8.51	6.51	2.89	2.69	2.02	1.94	1.75	1.46	1.42	1.24	1.17	1.11	1.03	1.00
%of IT	27.9	21.0	8.9	7.8	5.6	5.2	4.7	3.6	3.3	2.8	2.6	2.5	2.2	1.9
V. WIT	17.4	13.3	5.9	5.5	4.1	4.0	3.6	3.0	2.9	2.5	2.4	2.3	2.1	2.0

(Contd.....)



(Contd.....)

Factor Structure

Factor Loadings

Sl. No.	Fact- or 1	Fact- or 2	Fact- or 3	Fact- or 4	Fact- or 5	Fact- or 6	Fact- or 7	Fact- or 8	Fact- or 9	Fact- or 10	Fact- or 11	Fact- or 12	Fact- or 13	Fact- or 14
14	62	05	20	03	-00	10	-27	-37	-09	-15	03	-15	-11	-34
16	56	-08	22	08	-09	-09	-17	-41	-23	-05	-35	06	-19	-31
20	-44	39	-21	-07	36	01	32	23	-03	-14	48	-01	11	23
4	31	36	13	03	-10	02	-29	-47	-29	-13	-02	03	10	-50
6	-13	73	-15	-09	10	03	01	-04	-11	-42	25	-23	46	-16
8	-03	63	-11	03	08	-15	19	01	-02	-21	16	29	26	05
11	21	61	-18	-02	-14	06	03	05	-21	-45	35	02	42	-24
15	-01	60	-24	-09	06	01	14	-04	-06	-22	50	11	28	10
24	12	50	-07	-06	35	00	-05	-09	-03	-48	23	-27	32	-24
40	-23	41	-10	27	-03	-29	18	25	35	-16	16	06	-09	14
43	05	-11	73	21	-23	-07	-09	-18	-00	11	-14	-35	-19	-03
44	11	-17	85	01	-19	-18	-20	-28	-13	06	-22	-01	-31	-26
45	10	-08	88	-05	-08	14	-17	-19	-17	01	-14	-21	-04	-11
46	16	-11	83	07	08	11	-34	-11	-25	02	-07	-16	-13	-21
37	28	-08	04	55	02	08	-54	-13	04	-29	-25	05	-09	-33
39	-06	26	-24	45	-03	-11	33	11	38	06	03	18	-11	31
47	04	-11	32	67	-01	-19	-28	-08	-06	09	03	-04	-16	-06
17	-21	25	-20	-11	45	-43	14	08	04	-16	19	04	32	06
19	-47	10	-12	-26	48	-41	29	08	08	-02	32	06	21	25
26	-01	-05	-12	13	62	-01	-02	08	44	-03	09	-05	-01	15
21	-02	-05	-03	05	-02	-40	10	07	19	09	16	32	-05	16
41	-08	17	-20	22	10	-71	05	04	09	-20	18	13	20	03
47	38	10	25	26	-10	-03	-71	-30	-09	-16	-31	-12	-15	-43
49	10	-17	20	07	02	06	-83	-18	-13	-04	-07	-16	-08	-30
1	30	01	24	13	02	10	-14	-65	-11	-18	-10	-08	-09	-29
2	29	04	15	-04	06	-03	-31	-73	-11	-14	-13	-10	-13	-45

(Contd.....)

(Contd.....)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
32	-04	-15	32	-03	-19	-09	-38	-38	-05	21	-02	02	-13	-18
25	-06	-10	-07	03	17	-14	00	05	58	-01	-05	-00	-06	02
33	01	16	-27	28	01	-10	30	17	51	-04	09	23	-09	44
35	03	13	-29	05	06	16	28	14	52	17	03	18	-14	23
13	-23	23	-08	-34	00	11	-16	-13	-04	-66	23	05	29	-13
27	19	29	09	10	22	-20	-16	-36	-24	-56	07	-11	-21	-26
28	-10	42	-14	-09	08	21	-08	-22	-07	-48	41	-30	32	-04
31	12	29	-05	06	07	-31	-01	-08	-02	-65	39	-02	25	-07
3	06	54	-13	-17	19	02	14	-16	-09	-45	50	-01	40	-10
20	35	-11	12	31	16	06	-14	-33	-22	-02	-39	-02	-29	-22
29	01	27	-20	15	24	-28	12	05	-04	-36	64	05	17	-07
48	18	-14	47	-19	12	-12	-18	-07	-14	08	-23	-49	-24	-24
49	25	02	18	06	16	17	-46	-22	-17	-16	03	-52	05	-20
9	04	26	-11	-09	15	-00	04	-10	-37	-30	05	-10	63	-28
18	39	-06	23	12	27	15	-11	-23	-08	-17	-24	-12	-41	-25
23	-07	36	-07	-15	21	-25	13	21	09	-29	21	00	65	-04
5	32	19	13	04	-04	08	-31	-38	-15	-12	-09	-21	09	-73
7	45	-05	00	03	-01	32	-34	-49	-22	-12	-04	-18	11	-62
10	47	-01	09	00	08	31	-35	-46	-28	-19	-10	-04	06	-58
12	14	01	19	-07	-06	-02	-30	-31	-11	-18	-03	-02	09	-73
22	35	08	-03	06	14	-06	-30	-21	-31	-15	-04	21	-00	-56
34	48	-02	09	14	09	18	-44	-23	-15	-12	-27	-11	-02	-54
42	-36	41	-25	-10	23	-14	28	-02	05	-40	45	21	33	35

Sl. No. indicate the serial number of the items in the questionnaire.

Decimal points have been omitted from the factor loadings.

IT = (With) Iterations. E.V. = Eigen Value.

WIT = Without Iterations. % of V. = per cent of Variance.

Table 30

Factor Analysis Results of Leadership Style Responses

Sl. No.	<u>Factor Pattern</u>			<u>Factor Structure</u>		
	<u>Factor loadings</u>			<u>Factor loadings</u>		
	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
4	50	-31	- 24	64	- 28	- 51
5	52	15	02	51	16	- 29
6	48	01	02	47	02	- 26
8	43	02	- 35	64	05	- 61
9	64	- 10	- 06	67	- 09	- 43
7	09	86	- 00	10	86	- 11
1	- 01	21	- 30	16	23	- 30
2	09	01	65	48	05	- 71
3	05	- 18	- 90	59	- 12	- 92
<hr/>						
Eigen Values			IT	2.90	.92	.42
			WIT	3.36	1.20	1.05
Percentage of Variance			IT	68.4	21.7	100.0
			WIT	37.3	14.4	11.7

Sl. No. indicate the serial number of the items of the questionnaire.

Decimal points have been omitted, from the factor loadings.

IT = (with) Iterations.

WIT = Without Iterations.

Table 31

Factor Analysis Results of Job-Characteristics Scale Responses

Sl. No.	<u>Factor Pattern</u> <u>Factor loadings</u>			<u>Factor Structure</u> <u>Factor loadings</u>		
	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
1	49	18	-09	56	38	09
3	70	05	-11	70	35	07
7	57	-04	32	63	36	45
8	64	-03	04	64	29	19
9	54	-00	02	54	26	16
2	17	42	-05	36	48	14
5	08	64	01	39	68	27
6	-15	76	15	26	75	40
4	28	07	32	39	32	41
10	-04	16	74	22	42	76
Eigen values			IT	2.91	0.88	0.46
			WIT	3.49	1.36	1.00
Percentage of variance			IT	68.7	20.4	10.8
			WIT	34.9	13.6	10.0

Sl. No- indicate the serial number of the items in the questionnaire.

Decimal points have been omitted from the factor loadings.

IT = (with) Iterations.

WIT = Without Iterations.

Table 32

Factor Analysis Results of Strain Responses

Sl. No.	Factor Pattern							
	Factor Loadings							
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
1	66	20	-07	06	-12	10	10	-08
2	47	-13	11	19	-06	33	-08	-03
3	66	05	06	02	-17	-02	-26	-02
4	52	07	-07	-14	-01	07	-48	-15
5	44	-32	-04	18	-08	44	-16	03
6	63	-04	-07	23	-14	-16	-05	-02
7	43	26	-04	-12	10	16	-06	-30
8	71	21	-04	-04	29	06	11	-08
9	47	01	-04	21	34	-02	06	-26
16	06	82	02	-01	-03	03	00	-01
18	02	76	15	05	-16	-23	-16	01
20	05	76	01	04	10	-04	-12	01
22	10	49	-11	03	-39	11	-09	-03
23	-10	57	-03	08	-20	17	-12	-23
30	-04	-08	72	22	04	-12	-11	40
31	-07	-02	53	-14	08	-04	-25	24
33	04	07	64	-10	07	-04	13	-11
34	-07	04	63	-05	-19	16	-00	-29
35	08	05	39	04	-31	36	-00	-10
10	21	-01	06	58	04	-11	05	-13
15	05	00	06	38	32	03	-14	-20
19	14	27	-03	43	24	15	05	03
21	-01	07	11	75	01	05	00	15
27	09	04	-24	56	10	11	-01	-12
28	-04	-08	-15	74	-07	05	02	-10
29	07	-03	-13	64	-14	-17	-13	-15
32	-01	14	-15	34	-23	02	02	-09
24	04	13	05	-00	-66	02	09	-04
11	32	-00	05	32	-21	-39	-01	-25
25	21	30	-12	08	-17	31	-19	07
17	-04	20	01	-07	13	-00	-78	03
26	-12	21	-04	24	06	18	-28	-22
12	22	01	02	04	-01	-26	-18	-59
13	10	02	08	27	-17	-22	-28	-53
14	08	15	02	12	-00	09	06	-56

Sl. No. indicate the serial number of the items in the questionnaire.  
 Decimal points have been omitted from the factor loadings.

Sl. No.	Factor Structure							
	Factor Loadings							
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
1	77	38	-15	40	-19	26	-14	-46
2	60	09	05	41	-12	43	-22	-27
3	75	30	03	36	-22	15	-44	-38
4	67	36	-07	24	-08	21	-61	-42
5	55	-08	-08	37	-10	51	-22	-16
6	72	16	-15	49	-16	-01	-21	-38
7	61	46	-09	22	00	27	-26	-53
8	75	32	-14	28	23	18	-10	-39
9	64	17	-16	46	28	07	-11	-48
16	24	84	01	16	-15	16	-26	-30
18	19	80	16	18	-26	-10	-40	-29
20	24	79	00	20	-01	08	-35	-27
22	30	63	-09	23	-48	24	-28	-33
23	23	72	-04	27	-32	28	-33	-46
30	-20	-18	73	-03	05	-13	-12	42
31	-23	-09	60	-28	08	-07	-20	34
33	-04	04	63	-16	01	-05	05	-03
34	02	15	63	-04	-28	17	-11	-23
35	19	19	39	11	-39	41	-13	-18
10	46	14	-06	67	-01	-02	-12	-39
15	31	15	-02	48	25	07	-25	-33
19	38	34	-13	52	16	23	-14	-24
21	24	15	01	69	-03	12	-15	-11
27	42	21	-34	69	05	19	-15	-38
28	30	08	-25	77	-11	11	-10	-32
29	40	17	-21	75	-17	-08	-26	-43
32	22	26	-19	42	-27	10	-10	-29
24	09	22	07	07	-69	10	00	-17
11	50	19	-02	51	-25	-27	-17	-50
25	39	46	-12	29	-24	42	-35	-22
17	13	38	09	08	07	06	-81	-09
26	21	40	-06	37	-03	23	-41	-36
12	48	28	-03	34	-08	-18	-31	-72
13	46	34	03	52	-26	-12	-43	-71
14	41	37	-06	37	-12	16	-12	-68

Sl. No. indicate the serial number of the items in the questionnaire.

Decimal points have been omitted from the factor loadings.

(continued....)

324

Factor	Eigen Values		Percentage of Variance	
	IT	WIT	IT	WIT
1	19.99	10.38	48.8	29.7
2	3.07	3.45	15.0	9.9
3	1.85	2.26	9.1	6.5
4	1.57	1.96	7.7	5.6
5	1.37	1.81	6.7	5.2
6	1.19	1.60	5.8	4.6
7	.83	1.21	4.0	3.5
8	.59	1.01	2.9	2.9

IT = (With) Iterations.

WIT = Without Iterations.

Table 33

Factor Analysis Results of Coping Strategy Responses

Sl. No.	Factor Pattern				Factor Structure			
	Factor Loadings				Factor Loadings			
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 1	Factor 2	Factor 3	Factor 4
1	43	-06	13	31	64	-47	41	52
2	30	-16	28	21	59	-52	52	43
4	43	01	37	23	67	-47	60	46
14	54	-48	-05	-12	75	-73	36	23
15	58	-37	-13	-02	73	-64	27	29
16	54	-02	-08	37	66	-42	24	56
17	63	-08	12	21	81	-57	47	49
18	66	14	12	-03	62	-28	39	20
19	62	-23	13	-18	74	-58	46	15
20	67	-20	02	03	81	-61	40	35
8	31	-59	06	22	48	-71	37	44
9	20	-39	17	05	53	-60	44	29
10	27	-56	-01	29	70	-81	41	58
11	16	-65	10	14	63	-82	47	43
12	-04	-74	30	-09	49	-81	58	20
13	-03	-87	04	-08	46	-84	38	20
3	11	-10	32	01	31	-30	41	15
5	03	-02	64	12	27	-27	63	02
6	-04	-10	36	23	27	-31	44	32
7	10	-50	-04	50	55	-70	31	69
Eigen Values				IT	9.41	.91	.67	.51
				WIT	9.78	1.29	1.21	1.02
Percentage of				IT	81.8	7.9	5.8	4.5
Variance				WIT	48.9	6.5	6.0	5.1

Sl. No. indicate the serial number of the items.  
 Decimal points have been omitted from the factor loadings.  
 IT = (With) Iterations.  
 WIT = Without Iterations.



Table 34

Factor Analysis of Effectiveness Responses

Sl. No.	Factor Pattern		Factor Structure	
	Factor Loadings		Factor Loadings	
	Factor 1	Factor 2	Factor 1	Factor 2
1	55	31	75	68
2	51	25	68	59
3	81	02	83	56
4	97	-13	88	51
5	98	-18	86	48
10	56	25	73	63
11	59	28	78	68
12	65	16	76	59
13	77	07	82	59
6	08	72	56	77
7	08	75	58	81
8	-07	84	50	80
9	30	53	65	73
<hr/>				
Eigen values	IT	7.44	0.86	
	WIT	7.80	1.19	
% of Variance	IT	89.6	10.4	
	WIT	60.0	9.2	

Sl. No. indicate the serial number of the items in the questionnaire.

Decimal points have been omitted. from the factor loadings.

IT = (With) Iterations.

WIT = Without Iterations.

Table 35

Factor Analysis Results of Organizational Commitment Responses

Sl. No.	Factor Pattern		Factor Structure	
	Factor loadings		Factor loadings	
	Factor 1	Factor 2	Factor 1	Factor 2
1	41	-31	55	-50
5	89	01	88	-40
6	92	14	85	-28
7	41	-11	46	-30
9	68	02	67	-29
2	15	77	-21	70
3	-09	63	-38	67
4	30	-51	53	-65
8	-45	45	-66	66
<hr/>				
Eigen Values	IT	3.71	.90	
	WIT	4.15	1.34	
% of Variance	IT	80.5	19.5	
	WIT	46.1	14.9	

Sl. No. indicate the serial number of the items in the questionnaire.

Decimal points have been omitted from the factor loadings.

IT = (with) Iterations.

WIT = Without Iterations.

Table 36

Factor Analysis Results of Job Satisfaction Responses

Sl. No.	Factor Pattern		Factor Structure	
	Factor Loading		Factor Loading	
	Factor 1	Factor 2	Factor 1	Factor 2
1	60	-02	60	00
2	70	17	70	20
3	72	40	73	43
4	82	-09	82	-06
5	73	10	74	14
6	76	-32	74	-28
7	77	-38	75	-34
8	61	00	61	02
9	81	03	82	07
10	76	-05	76	-02
11	78	-03	78	00
12	82	-13	81	-09
13	65	30	66	33
14	69	-10	68	-07
15	61	17	62	20
16	67	-07	66	-04
17	78	-12	78	-08
18	80	06	80	10
19	82	11	83	15
20	86	08	87	12
Eigen Values		IT	11.00	0.64
		WIT	11.40	1.02
Percentage of		IT	94.50	5.50
Variance		WIT	57.00	5.10

Sl.No. indicate the serial number of the items in the questionnaire.

Decimal points have been omitted from the factor loadings.

IT = (With) Iterations.

WIT = Without Iterations.

Table 37

Means, Standard Deviations, Standardized Alpha Reliabilities of the Variables and Intercorrelations

Sl. No.	Variables	<u>M</u>	<u>SD</u>	No. of items	St. Alpha	1	2	3	4	5	6	7	8	9
1	LGC*	16.66	2.60	5	76	100								
2	RC	10.58	3.49	5	81	-.06	100							
3	FI*	8.17	2.69	3	90	.21	-.13	100						
4	RA*	12.37	2.31	4	73	.29	-.07	.13	100					
5	RO*	-11.77	4.28	5	83	-.22	-.51	.15	-.13	100				
6	LSS*	9.66	2.30	3	83	.38	-.00	.45	.24	-.08	100			
7	CCRR	4.94	1.75	2	61	-.09	.21	-.11	.08	-.12	-.03	100		
8	JD	6.19	2.34	2	63	-.01	.21	-.04	.13	-.15	.17	.19	100	
9	JRCM	-9.64	1.91	4	54	-.31	.01	-.07	-.24	.17	-.21	.10	.10	100
10	IRA*	4.78	1.68	2	76	.26	-.31	.14	.32	.09	.08	-.15	-.11	-.13
11	F	20.56	5.29	9	89	-.19	.47	-.34	-.08	-.41	-.20	.40	.03	.18
12	LLT	15.42	5.25	6	87	.20	.36	-.13	.14	-.75	.08	-.03	.10	-.07
13	FUR	17.50	3.08	5	71	.22	.02	.17	.27	-.09	.18	.05	.03	-.23
14	PSS	16.69	4.57	8	84	-.23	.29	-.23	-.18	-.23	-.19	.20	.00	.35
15	WA	-3.63	1.19	1	NA	-.06	-.06	.15	-.18	.29	-.11	-.11	-.30	-.00
16	BOI*	-2.83	0.90	1	NA	.20	-.07	.32	.14	.15	.17	-.01	.06	-.13
17	UWR*	-3.97	1.61	2	45	-.15	-.37	.05	-.18	.49	.00	.12	.01	.15
18	LH*	-9.05	2.40	3	79	.04	-.22	.41	-.05	.43	.13	-.05	.07	-.02
19	CS	22.47	3.30	6	68	.05	-.04	.11	.23	.21	.08	.18	-.10	-.06
20	VE	4.15	2.52	2	97	.05	-.09	.02	.17	.18	.08	-.03	.00	-.05
21	SY	57.62	16.77	5	80	.12	-.01	.06	.26	-.05	.11	-.26	-.12	-.37
22	ST*	-14.22	11.45	3	65	-.14	.11	-.12	-.22	-.09	.03	.13	.19	.19
23	LFDLOP	15.16	4.41	6	81	.04	.32	-.18	.16	-.40	-.18	-.03	.00	-.10

contd....

(contd...)

Sl. Variables No.	10	11	12	13	14	15	16	17	18	19	20	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10	IRA*	100										
11	F	-31	100									
12	LLT	-07	42	100								
13	FUR	01	-10	03	100							
14	PSS	-25	59	37	-19	100						
15	WA	27	-11	-33	-12	-06	100					
16	BOI*	18	-48	-27	06	-51	21	100				
17	UWR*	-10	-34	-53	-08	-31	-02	17	100			
18	LH*	12	-59	-48	07	-55	18	62	37	100		
19	CS	17	-07	-35	08	-13	13	15	16	11	100	
20	VE	09	-15	-11	18	-18	04	15	04	27	10	100
21	SY	31	-10	-06	20	-30	-02	08	-29	07	07	31
22	ST*	-34	21	12	-13	12	-27	-07	-03	-10	-08	-21
23	LFDLOP	-07	42	38	-04	18	-03	-24	-55	-38	-01	00

contd...

(Contd....)

Sl. Variables No.	21	22	23	24	25	26	27	28	29	30
1 LGC*				19	06	20	19	26	-02	33
2 RC				05	18	31	10	03	-26	-12
3 FI*				18	-01	-04	03	14	08	03
4 RA*				30	12	22	22	24	-16	22
5 RO*				-07	-10	-48	-35	-10	26	-09
6 LSS*				01	-09	04	21	04	19	07
7 CCRR				14	-12	16	-09	-21	02	04
8 JD				10	-20	06	01	-05	-06	-03
9 JRCM				03	-06	-12	-14	-21	05	-20
10 IRA*				03	02	04	-04	25	-01	02
11 F				-09	29	41	12	-12	-31	-13
12 LLT				-03	19	45	42	18	-28	04
13 FUR				16	03	03	-11	08	01	26
14 PSS				-17	17	22	08	-19	-19	-15
15 WA				-10	27	-03	-24	09	05	-12
16 BOI*				26	-10	-07	-06	20	17	04
17 UWR*				01	-36	-42	-17	-21	27	09
18 LH*				09	-21	-26	-17	04	34	-02
19 CS				09	05	-15	-14	-03	-01	21
20 VE				11	10	01	-08	08	11	13
21 SY	100			-05	23	05	07	26	-12	-10
22 ST*	-26	100		-13	-16	09	07	-15	03	-08
23 LFDLOP	27	-01	100	-13	52	45	21	15	-40	-21

Contd....

(Contd.....)

Sl. Variables No.	31	32	33	34	35	36	37	38	39	40
1. LGC*	14	-09	12	21	-09	39	-02	11	08	-15
2. RC	-18	20	18	-06	12	01	12	06	36	13
3. FI*	10	-22	-16	15	-12	06	01	11	01	-13
4. RA*	24	-14	23	36	05	07	10	07	-11	07
5. RO*	09	-09	-16	-08	-16	-29	09	-30	-30	09
6 LSS*	11	-04	-13	16	-10	34	16	21	25	-34
7 CCRR	-04	24	13	-17	00	-21	61	-23	08	36
8 JD	-01	33	-08	-08	-01	22	24	07	20	-18
9 JRCM	-19	31	-21	-34	-22	-14	11	06	05	-01
10 IRA*	10	-16	-04	27	-11	15	-10	07	-11	-07
11 F	-19	18	18	-29	16	-25	20	-07	23	28
12 LLT	-08	01	11	09	22	34	-27	25	29	-06
13 FUR	17	-17	12	20	-09	04	07	05	-01	11
14 PSS	-22	22	09	-40	18	-12	07	08	15	19
15 WA	00	-11	-06	-01	-07	-20	-06	-14	-05	18
16 BOI*	15	03	05	30	-11	09	17	06	-04	-10
17 UWR*	06	11	-25	-10	-25	-04	22	-21	-25	-12
18 LH*	14	04	-34	19	-17	06	08	-06	-10	-04
19 CS	12	-07	06	15	-17	-16	20	-14	-02	16
20 VE	07	00	-01	24	-12	03	05	07	-03	10
21 SY	27	-26	05	31	06	03	-19	04	-01	-04
22 ST*	-11	19	-07	-22	11	-03	12	-01	21	-08
23 LFDLOP	04	-04	30	03	16	-05	-06	07	09	20

Contd.....

(Contd..... )

Sl. Variables No.	41	42	43	44	45	46	47	48	49	50
1 LGC*	-12	-28	-12	-02	-16	20	-10	-42	-27	-01
2 RC	-40	-06	08	-19	08	-03	-06	17	-11	09
3 FI*	28	-23	-25	-10	-05	-31	-02	-31	-40	22
4 RA*	-08	-35	-10	-42	08	-09	-10	-21	-07	29
5 RO*	39	29	05	-07	19	11	29	-19	22	-06
6 LSS*	11	-45	-12	-20	-04	-22	-06	-46	-49	12
7 CCRR	-22	07	02	-44	46	19	36	12	11	02
8 JD	03	-08	07	-27	16	00	-03	-17	-12	-07
9 JRCM	25	13	05	01	14	07	-01	12	17	-26
10 IRA*	11	-19	-01	-02	-09	-12	-24	-14	09	16
11 F	-45	18	06	-03	13	22	10	21	12	-11
12 LLT	-25	-25	-03	25	-35	-18	-41	-29	-27	-07
13 FU*	09	-14	-05	-21	-02	-20	-02	-16	-14	13
14 PSS	-15	10	09	05	03	-03	-02	19	11	-25
15 WA	-01	25	13	13	09	-01	-07	29	16	11
16 BOI*	16	-22	-12	-21	10	-18	-04	-22	-18	26
17 UWR*	32	07	02	-05	17	20	21	-02	16	-13
18 LH*	37	-02	-02	-06	11	-10	09	-14	-04	11
19 CS	-00	-02	-12	-45	30	11	24	04	04	24
20 VE	13	-02	04	-08	-04	-06	12	-04	05	24
21 SY	-04	-03	-09	-03	-25	-19	-11	-04	-15	26
22 ST*	18	05	07	05	03	07	01	-09	-07	-23
23 LFDLOP	-36	02	06	03	-12	06	-04	14	-03	12

Contd....



(Contd....)

Sl. No.	Variables	51	52	53	54	55	56	57	58	59	60
1	LGC*	09	-18	24	-06	05	24	40	41	-22	31
2	RC	04	-05	-21	01	05	-25	-12	-11	30	-29
3	FI*	-02	-23	42	30	16	40	33	47	-45	62
4	RA*	00	-34	25	01	22	36	39	38	-18	40
5	RO*	-27	23	17	06	-09	14	-08	10	-37	24
6	LSS*	-07	-12	40	20	24	39	41	48	-34	47
7	CCRR	05	-08	-12	-09	-06	-11	-10	-11	01	-25
8	JD	-15	07	-01	21	24	02	-02	-03	-19	01
9	JRCM	09	34	-14	-06	-17	-14	-32	-26	02	-19
10	IRA*	-06	-12	33	-04	01	26	26	23	-10	34
11	F	22	09	-47	-18	-26	-44	-34	-44	51	-59
12	LLT	30	-19	-10	-05	02	-10	10	-13	37	-18
13	FU*	22	-26	21	18	12	14	15	28	-09	28
14	PSS	20	24	-35	-16	-24	-32	-29	-56	46	-51
15	WA	-08	04	09	-01	-16	08	-04	04	06	14
16	BOI*	-22	-28	34	23	22	35	28	38	-40	50
17	UWR*	-22	20	07	03	-03	06	-07	08	-38	12
18	LH*	-25	-01	41	20	18	27	20	40	-55	45
19	CS	-16	-18	09	02	04	12	07	29	-28	21
20	VE	-03	-19	25	-02	05	20	12	22	-19	25
21	SY	01	-26	18	-04	08	07	20	24	-01	18
22	ST*	02	16	-12	05	-10	-15	-31	-16	06	-21
23	LFDLOP	16	-17	-22	-07	04	-14	-07	-15	34	-24

Contd....

(Contd.....)

Sl. No.	Variables	61	62	63	64	65	66	67	68
1	LGC*	-24	-10	29	36	-39	30	32	36
2	RC	28	27	-05	08	11	05	05	-28
3	FI*	-47	-41	28	25	-33	33	16	62
4	RA*	-25	-23	39	38	-37	29	24	42
5	RO*	-23	-22	-04	-25	07	-11	-22	23
6	LSS*	-30	-20	41	23	-29	39	20	50
7	CCRR	11	19	-03	05	06	-05	-05	-20
8	JD	05	03	15	00	-09	09	05	03
9	JRCM	26	19	-20	-35	27	-09	-33	-23
10	IRA*	-19	-19	20	21	-27	11	12	32
11	F	49	46	-34	-15	37	-18	-17	-61
12	LLT	31	24	-04	19	-05	09	20	-21
13	FU*	-26	-25	25	24	-16	09	09	29
14	PSS	60	48	-43	-28	43	-20	-39	-57
15	WA	-16	-05	-07	06	02	09	-09	08
16	BOI*	-46	-32	35	24	-35	26	26	52
17	UWR*	-23	-15	01	-28	04	-08	-08	15
18	LH*	-49	-45	29	21	-36	19	19	50
19	CS	-26	-25	21	09	-20	17	04	26
20	VE	-18	-23	22	16	-21	15	11	26
21	SY	-13	-25	20	24	-21	11	19	20
22	ST*	22	21	-17	-27	27	-04	-20	-23
23	LFDLOP	24	23	-08	19	-04	01	11	-26

Contd.....

(Contd....)

Sl. No.	Variables	<u>M</u>	<u>SD</u>	No. of items	St. Alpha	24	25	26	27	28	29	30	31	32
24	SC	11.10	1.57	3	59	100								
25	CLP	7.19	2.62	3	74	-23	100							
26	CACP	4.36	1.57	2	75	-13	42	100						
27	CABP	10.06	1.72	3	36	06	13	19	100					
28	CPPP	3.31	0.82	1	NA	18	20	19	22	100				
29	DR	- 8.73	1.59	3	47	-08	-23	-28	-22	-21	100			
30	IPCCF	5.02	1.77	3	36	30	-19	-12	07	05	01	100		
31	AO	18.65	2.78	5	75	14	08	-11	10	19	-08	11	100	
32	SLWE	- 0.96	1.42	2	43	-01	06	12	00	-14	15	-16	-22	100
33	PCA	6.82	1.27	2	29	30	09	14	07	11	-27	16	25	-07
34	EWE	15.08	2.26	4	64	28	01	-05	22	29	-10	32	32	-35
35	IWE	13.02	2.41	4	57	-16	03	25	18	02	-17	-17	00	-11
36	IH	3.87	2.06	3	64	00	-18	02	29	14	08	08	14	15
37	SF	21.55	4.14	7	75	16	-09	13	-05	-19	01	-06	-01	28
38	ORT	10.49	3.59	4	88	04	-04	09	11	01	-09	02	08	-03
39	APP	8.19	1.83	3	41	-10	13	12	03	-05	08	-09	-01	20
40	C	9.58	2.29	3	62	12	27	09	-12	03	-12	06	-12	-08
41	DLDM	- 6.17	1.62	2	41	-11	-26	-27	-25	-07	38	-06	06	-07
42	NPC	-10.36	1.66	3	60	-20	14	-08	-24	-12	-04	-13	-08	-05
43	SPMLR	8.50	1.85	3	52	-08	12	01	-09	07	-01	-10	06	14
44	NF	-13.30	2.69	4	70	-30	05	-07	11	05	04	-04	-10	-12
45	FCC	3.14	1.89	3	46	23	-12	01	-11	-09	00	00	-10	23
46	IWC	- 5.94	1.36	2	51	-03	-04	-10	-06	-14	00	06	-04	10

Contd....

(Contd....)

Sl. Variables No.	33	34	35	36	37	38	39	40	41	42	43
24											
25											
26											
27											
28											
29											
30											
31											
32											
33 PCA	100										
34 EWE	26	100									
35 IWE	12	03	100								
36 IH	-16	09	-07	100							
37 SF	08	-16	-15	-17	100						
38 ORT	10	10	-05	31	-16	100					
39 APP	-04	-07	02	11	03	12	100				
40 C	12	08	04	-42	13	-24	-08	100			
41 DLDM	-33	-09	-12	07	-13	18	-18	-33	100		
42 NPC	-03	-24	01	-45	02	-36	-11	18	-06	100	
43 SPMLR	04	00	04	-14	-01	-30	-16	22	-18	18	100
44 NF	-15	01	02	06	-55	05	05	-14	11	14	12
45 FCC	05	-14	-10	-35	55	-24	-13	32	-24	14	05
46 IWC	12	-04	09	-29	08	-41	02	05	-19	24	28

Contd....

(Contd.....)

Sl. Variables No.	44	45	46	47	48	49	50	51	52	53
24 SC	-30	23	-03	07	-01	05	14	-09	-21	11
25 CLP	05	-12	-04	-10	21	05	09	16	-13	-18
26 CACP	-07	01	-10	-19	-10	-14	-05	14	-09	-07
27 CABP	11	-11	-06	-13	-20	-18	10	09	-09	05
28 CPPP	05	-09	-14	-26	-09	-11	15	14	-20	14
29 DR	04	00	00	01	-09	06	-02	-12	15	04
30 IPCCF	-04	00	06	08	-06	06	12	04	-25	06
31 AO	-10	-10	-04	00	-03	-11	23	03	-17	16
32 SLWE	-12	23	10	05	03	06	-19	-11	25	-23
33 PCA	-15	05	12	-01	24	05	19	11	-35	-21
34 EWE	01	-14	-04	-20	-07	-12	52	-04	-53	27
35 IWE	02	-10	09	-16	06	-14	03	06	-05	-03
36 IH	06	-35	-29	-24	-55	-40	-05	04	03	25
37 SF	-55	55	08	42	-04	-02	-03	-08	06	01
38 ORT	05	-24	-41	-22	-22	-28	11	08	-02	13
39 APP	05	-13	02	-16	-09	-28	-06	04	06	-22
40 C	-14	32	05	26	35	24	14	16	-11	-10
41 DLDM	11	-24	-19	-19	-22	-07	-13	-10	17	31
42 NPC	14	14	24	22	46	40	-22	-02	25	-31
43 SPMLR	12	05	28	-12	29	24	-20	-08	16	-26
44 NF	100		-12	-31	08	11	-15	14	09	-16
45 FCC	-51	100		42	17	22	06	-18	12	-10
46 IWC	07	14	100	15	34	37	-10	-12	05	-42

Contd.....

(Contd....)

Sl. No.	Variables	54	55	56	57	58	59	60	61	62	63
24	SC	02	16	27	28	25	-19	26	-34	-18	37
25	CLP	-28	-12	-04	00	01	29	-05	24	12	-10
26	CACP	-09	-05	-14	-05	-09	42	-23	25	27	-06
27	CABP	-03	06	04	18	12	12	06	09	08	14
28	CPPP	-04	13	16	19	21	03	29	-17	-13	18
29	DR	-02	-13	19	10	01	-22	08	-14	-12	04
30	IPCCF	-03	01	08	20	31	-13	16	-23	-17	32
31	AO	-06	16	09	11	25	-20	24	-27	-35	24
32	SLWE	-03	08	-03	-07	-25	00	-23	25	21	-08
33	PCA	-18	05	05	08	01	16	-05	07	11	12
34	EWE	-03	05	32	38	56	-20	50	-31	-34	42
35	IWE	12	06	-15	-07	-19	24	-13	12	10	-23
36	IH	25	30	26	31	13	-17	21	-18	-16	29
37	SF	07	-05	-01	-11	03	-10	-12	-04	10	04
38	ORT	11	27	13	24	-03	11	09	-02	-05	12
39	APP	-16	-18	-08	05	03	08	-12	15	11	01
40	C	-18	-24	-11	-08	-06	16	-13	03	03	-15
41	DLDM	28	11	23	-01	06	-35	30	-20	-25	02
42	NPC	-21	-25	-42	-44	-23	12	-40	22	17	-29
43	SPMLR	-22	-20	-14	-18	-03	08	-08	18	20	-08
44	NF	-22	-21	-17	-15	-17	26	-14	14	11	-25
45	FCC	08	05	-02	-14	-04	-02	-10	-02	15	00
46	IWC	-21	-16	-29	-35	-16	03	-29	15	22	-18

Contd....

(Contd.....)

Sl. Variables No.	64	65	66	67	68
24 SC	13	-26	19	17	30
25 CLP	16	-03	14	10	-09
26 CACP	22	-01	17	07	-25
27 CABP	11	-16	26	21	05
28 CPPP	25	-35	18	25	25
29 DR	00	-02	-02	-10	10
30 IPCCF	27	-25	20	20	22
31 AO	03	-20	01	11	27
32 SLWE	-16	08	-05	-08	-21
33 PCA	13	-06	-02	02	-05
34 EWE	51	-54	30	44	52
35 IWE	-04	12	00	-06	-17
36 IH	19	-32	22	33	24
37 SF	07	11	02	-06	-07
38 ORT	04	-03	09	-02	07
39 APP	07	-02	14	09	-09
40 C	24	-03	01	04	-14
41 DLDM	-24	06	-10	-27	27
42 NPC	-34	36	-31	-28	-38
43 SPMLR	-01	03	-10	-02	-11
44 NF	-03	10	-13	05	-19
45 FCC	-08	06	06	-20	-08
46 IWC	-09	00	-15	06	-27

Contd.....

(Contd....)

Sl. No.	Variables	<u>M</u>	<u>SD</u>	No. of items	St. Alpha	47	48	49	50	51	52
47	FC	4.55	1.82	3	50	100					
48	CENR	-17.06	4.10	7	81	11	100				
49	AC	- 6.50	1.45	2	76	17	52	100			
50	NTLS	13.94	3.34	5	72	02	02	-07	100		
51	TOLS	3.02	0.99	1	NA	-09	-08	-13	03	100	
52	NALS	- 9.00	2.28	3	64	10	11	12	-56	-11	100
53	ADO	76.41	12.29	5	75	-11	-34	-30	21	-11	-14
54	JVR	52.81	7.96	3	66	-02	-31	-34	01	-09	07
55	JIF	36.02	4.79	2	54	-06	-14	-21	14	-10	-10
56	OSE	28.45	5.43	9	94	-17	-32	-29	36	00	-28
57	PEF	13.99	2.07	4	86	-13	-35	-38	32	05	-38
58	OPC	19.05	3.20	5	81	-08	-26	-28	31	-15	-34
59	OA*	5.08	3.06	4	77	-12	29	22	-05	26	15
60	JS	63.32	12.57	20	96	-20	-31	-30	39	-12	-38
61	A	2.67	0.89	1	NA	-08	29	23	-31	13	28
62	IL	2.73	0.90	1	NA	-02	23	21	-34	00	31
63	P	3.32	1.03	1	NA	-13	-25	-23	26	-10	-35
64	APS	25.10	5.80	10	91	-19	-17	-18	43	06	-50
65	NDWA	-20.87	5.56	7	91	20	29	26	-37	08	39
66	CDPS	8.86	1.88	3	46	-14	-19	-28	22	-01	-27
67	IS	3.55	1.13	1	NA	-11	-29	-29	28	04	-31
68	HWL	89.20	20.16	7	89	-13	-35	-34	38	-14	-40

Contd....



(Contd.....)

Sl. No.	Variables	53	54	55	56	57	58	59	60	61	62
47											
48											
49											
50											
51											
52											
53	ADO	100									
54	JVR	42	100								
55	JIF	35	41	100							
56	OSE	44	20	22	100						
57	PEF	35	05	19	71	100					
58	OPC	50	10	14	45	48	100				
59	OA*	-44	-27	-24	-47	-33	-56	100			
60	JS	61	31	28	74	57	68	-62	100		
61	A	-54	-30	-22	-46	-40	-57	55	-61	100	
62	IL	-46	-18	-26	-39	-38	-50	56	-57	70	100
63	P	43	25	35	48	52	65	-48	57	-49	-49
64	APS	21	02	05	35	50	52	-16	41	-33	-27
65	NDWA	-31	-08	-16	-48	-56	-61	43	-58	44	40
66	CDPS	26	07	12	39	39	44	-17	47	-34	-17
67	IS	15	00	14	18	41	45	-19	31	-29	-27
68	HWL	63	29	29	74	64	80	-73	96	-70	-66

Contd.....

(Contd.....)

Sl. No.	Variables	63	64	65	66	67	68
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							
61							
62							
63	P	100					
64	APS	48	100				
65	NDWA	-55	-74	100			
66	CDPS	42	49	-48	100		
67	IS	40	65	-71	36	100	
68	HWL	68	47	-65	48	38	100

$p (.05) \underline{r} = .13$      $p (.01) \underline{r} = .17$  at  $df = 248$

Decimal points omitted from correlation coefficients and St.Alpha

\* = Reversed

St. Alpha = Standardised Alpha = Cronbach's (1951) statistic  $\bar{r}_{ij}$  (est.).